The Role of Religion and Environmental Ethics in Climate Change

Dissertation

zur Erlangung des akademischen Grades

doctor philosophiae
(Dr. phil.)

eingereicht an

der Kultur-, Sozial- und Bildungswissenschaftlichen Fakultät
der Humboldt-Universität zu Berlin

von
Indika Dilhan Somaratne

Präsident der Humboldt-Universität zu Berlin
Prof. Dr. Jan-Hendrik Olbertz

Dekanin der Kultur-, Sozial- und Bildungswissenschaftlichen Fakultät
Prof. Dr. Julia von Blumenthal

Gutachter: 1. Prof. Dr. Boike Rehbein
2. Prof. Dr. Rolf Hepp

Tag der mündlichen Prüfung: 17.03.2017

Abstract

Most people think Climate Change and sustainability are important problems, but too few global citizens engaged in high-greenhouse-gas-emitting behaviour are engaged in sufficient mitigating behaviour to stem the increasing flow of greenhouse gases and other environmental problems. Why is that? Structural barriers such as a climate-averse infrastructure are part of the answer, but psychological barriers also impede behavioural choices that would facilitate mitigation, adaptation and environmental sustainability. But who can remove the psychological and ethical barriers to pro-environmental actions?

The world's present institutions have failed to address adequately the threat of Climate Change. No politician has been willing to sacrifice the short-term economic welfare of his or her country, even while agreeing that sustainability is essential in the long term. The environmental crisis is not simply an issue of technology (as defined by some developed countries). It is neither because our technology cannot provide enough resources for us to consume, nor because we cannot invent more advanced technology to refine the toxic wastes we produce that environmental problems arise. The essence of the modern environmental crisis is about modern civilization and its underlying values. “Our ecological crisis is the inevitable outcome of the modern economy’s insensitivity to the vulnerability and limits of nature, the mad power struggle of modern politics, modern people’s universally equating happiness with material satisfaction, and their overwhelming acceptance of a mechanical and dualist view of nature.”

The hypothesis of this dissertation tries to convince the reader that the current outer environmental crisis is in reality an inner mental crisis of the human consciousness. It is a mental crisis that is rooted in false ideologies and polluted human consciousness. Not only the present world political structure but also the present mainstream environmental movement is manipulated and controlled by the

wrong ideologies of the present economic giants, the oil companies and the elites that own them. The present Climate Change efforts by IPCC and UNFCC are directed toward limited goals whose attainment is more cosmetic than curative. As I believe, the true cause of the global environmental problems, including Climate Change, is the present egocentric, selfish ethic-less lifestyle of humanity. I believe the present “Ego-centric ethic-less lifestyle” is fuelled by four kinds of detrimental ideologies. They are as follows;

i. Detrimental ideology of capitalist influenced economic development

ii. Detrimental ideology of human centered decision making

iii. Detrimental ideology of non-renewable energy consumption, and

iv. Detrimental ideologies of what true happiness and wellbeing is.

I believe that world leaders need to consider the ethics of humanity, the ethics of society and the ethics of the natural environments into their decisions. Therefore this thesis tries to present an alternative ethical approach to the problem. This includes primarily a change of world ethics, and perspectives about nature and humanity. World religions’ knowledge and their spiritual influences can help to shape environmental ethics of the present civilization.

I suggest solving the environmental and climate problems by educating the present and future generations through holistic education approaches. But since knowledge and education alone cannot change harmful human behaviour (to create pro environmental behaviour), there should be a change in pro-environmental social, economic and political ethics as well. So we are talking about “an Ethical Revolution” in social, economic and political realms.

The world religions can have many meanings to the reader, but the perspective that I use to approach religion is not religious, my perspective is more of a scientific and

socio-psychological approach to new knowledge. In this dissertation I propose “religion based utopia essential knowledge” as a holistic solution to this environmental and climate issue. All the religions of the world have traditionally expressed some ethical concern for the environment and its creatures. They have accorded some moral significance to other creatures, and proposed some ethical responsibilities on the part of humans, although these ethical dimensions are usually secondary, or inferior, relative to responsibilities to other humans. Throughout history, the world's religions have understood the Earth to have some kind of religious significance, or religious value, and that humans have some religious obligations to care for its creatures. These shared ethical concerns are found in historical teachings, and not necessarily in actual religious practices. Greed and destructiveness are condemned, while restraint and protection are affirmed by most religious traditions. For reasons that are complex, controversial, and poorly understood, these religious concerns for the environment faded with the rise of modern society. The development of modern scientific, economic and political institutions have taken the place historically accorded to religion, and traditional religious attitudes toward nature have largely disappeared in modern societies. Over the past few decades, however, some leaders of every religion in the world have returned to their origins to recover their pre-modern religious environmental teachings to present them as religious environmental ethics.

Key Words: Climate Change, Environmental Ethics, Religion, Sociology of Education

Zusammenfassung

Die meisten Menschen denken, dass Klimawandel und Nachhaltigkeit wichtige Herausforderungen darstellen. Allerdings legen zu wenige Weltbürger mit hohem treibhausgasproduzierenden Verhalten nicht in ausreichendem Maße auch ein treibhausgasverringerndes Verhalten an den Tag, um den Anstieg von Treibhausgasen und anderen Umweltproblemen aufzufangen. Warum ist das so? Strukturelle Barrieren, wie. z. B. eine klimaschädliche Infrastruktur, sind ein Teil der Antwort, aber auch psychologische Barrieren verhindern ein Verhalten, das Mitigation, Anpassung und ein nachhaltiges Umweltmanagement ermöglicht. Aber wer kann die psychologischen und ethischen Barrieren entfernen, um ein umweltfreundliches Verhalten zu etablieren?

Die aktuellen Institutionen dieser Welt haben es nicht geschafft, die Bedrohung durch den Klimawandel adäquat zu adressieren. Keiner der Politiker war bisher dazu bereit, das kurzfristige ökonomische Wohl seines Landes zu opfern, auch wenn sie gleichzeitig einsehen, dass Nachhaltigkeit auf lange Sicht unabdingbar ist. Die Umweltkrise ist nicht einfach nur ein technologisches Problem (wie es von einigen Industrieländern definiert wird). Probleme entstehen auch nicht, weil unsere Technologie nicht genügend Nahrungsressourcen zur Verfügung stellen kann und auch nicht, weil wir nicht in der Lage sind, fortschrittlichere Technologien zu erfinden, um den Giftmüll, den wir produzieren, herauszufiltern. Das Wesen der modernen Umweltkrise dreht sich um die moderne Zivilisation und die Werte, die ihr zugrunde liegen. „Unsere ökologische Krise ist das zwangsläufige Ergebnis des Mangels an Sensibilität der modernen Wirtschaft gegenüber der Verletzlichkeit und der Grenzen der Natur, des verrückten Machtkampfes der modernen Politik, des weltweiten Verhaltens der Völker, Glück mit materieller Befriedigung gleichzusetzen, und deren überwältigenden Akzeptanz einer mechanischen und dualistischen Sichtweise der Natur.“

Die Hypothese dieser Dissertation versucht den Leser davon zu überzeugen, dass die äußere Umweltkrise in Wirklichkeit eine innere mentale Krise des menschlichen Bewusstseins ist. Es ist eine mentale Krise, die tief verwurzelt ist in falschen Weltanschauungen und korrumpiertem menschlichen Bewusstsein. Nicht nur die aktuellen weltpolitischen Strukturen sondern auch die aktuellen etablierten Umweltbewegungen werden von den falschen Ideologien der derzeitigen ökonomischen Riesen, der Ölkonzerne und der Eliten, die sie besitzen, manipuliert und kontrolliert. Die gegenwärtigen Bemühungen der IPCC und UNFCC gegen den Klimawandel sind auf begrenzte Ziele gerichtet, deren Erlangung eher kosmetischer als heilender Natur ist. Ich glaube, die wahre Ursache der weltweiten Umweltprobleme, Klimawandel eingeschlossen, ist die heutige egozentrische und unethische Lebensweise der Menschheit. Ich bin der Überzeugung, dass die egozentrische und unethische Lebensweise durch vier Arten von schädlichen Ideologien befeuert werden. Diese sind:

i. Schädliche Ideologie der vom Kapitalismus beeinflussten ökonomischen Entwicklung

ii. Schädliche Ideologie der menschenzentrierten Entscheidungsfindung

iii. Schädliche Ideologie des Konsums nicht erneuerbarer Energie und

iv. Schädliche Ideologie über die wahre Bedeutung von Glück und Wohlsein.

Ich glaube, dass die Anführer dieser Welt die menschliche, gesellschaftliche und natürlich-ökologische Ethik in ihre Entscheidungsprozesse mit einbeziehen müssen. Deswegen versucht diese Thesis einen alternativen ethischen Problemansatz zu präsentieren. Dieser beinhaltet in erster Linie einen Wandel der Ethik dieser Welt und der Sichtweise auf die Natur und die Menschheit. Das Wissen der Weltreligionen und ihr spiritueller Einfluss können dazu beitragen die Umweltethik der derzeitigen Weltbevölkerung zu formen.

Ich schlage vor, die Umwelt- und Klimaprobleme durch einen ganzheitlichen Ansatz bei der Erziehung der derzeitigen und zukünftigen Generationen zu lösen. Aber da Wissen und Erziehung alleine kein schädliches menschliches Verhalten ändern können (um ein umweltfreundliches Verhalten zu erzeugen), sollte es auch einen Wandel in eine umweltfreundliche, soziale, ökonomische und politische Ethik geben. Wir sprechen also von einer „ethischen Revolution“ im sozialen, ökonomischen und politischen Bereich.

Die Weltreligionen können für den Leser verschiedene Bedeutungen haben, aber die Sichtweise, mit der ich an die Religion ansetze ist nicht religiös. Meine Sichtweise hat eher einen wissenschaftlichen und sozial-psychologischen Ansatz an ein neues Wissen. In dieser Dissertation schlage ich eine religionbasierte Utopie von allgemeinem Wissen als ganzheitliche Lösung für dieses Umwelt- und Klima-Problem vor. Alle Religionen der Welt haben traditionsgemäß die ein oder andere ethische Besorgnis für die Umwelt und ihre Lebewesen geäußert. Sie haben anderen Lebewesen eine moralische Bedeutung zugesprochen und erkennen dabei eine ethische Verantwortung seitens der Menschen an, obwohl diese ethischen Dimensionen in der Regel in Bezug auf die Verantwortung gegenüber anderen Menschen zweitrangig oder nachgelagert sind. Durch die Geschichte hinweg haben die Weltreligionen der Erde eine gewisse religiöse Bedeutung oder Wert zugeschrieben und verstanden, dass die Menschen eine gewisse religiöse Verpflichtung haben, für ihre Geschöpfe zu sorgen. Diese gemeinsamen ethischen Bedenken kann man in historischen Lehren finden, aber nicht unbedingt in gegenwärtigen religiösen Praktiken. Gier und Zerstörungswut werden verurteilt, während Zurückhaltung und Bewahrung von den meisten religiösen Traditionen bekräftigt werden. Aus vielschichtigen, kontroversen und wenig verstandenen Gründen sind diese Besorgnisse mit dem Aufkommen der modernen Gesellschaft verloren gegangen. Die Entwicklung moderner wissenschaftlicher und

politischer Institutionen haben den Platz eingenommen, der historisch gesehen der Religion zugewiesen war und die traditionelle religiöse Haltung gegenüber der Natur ist in modernen Gesellschaften zum Großteil verschwunden. Während der letzten Jahrzehnte jedoch, sind einige Führer aus allen Weltreligionen zu ihren Wurzeln zurückgekehrt, um ihre vormodernen religiösen Umweltlehren wiederzuerlangen und diese als religiöse Umweltethik zu präsentieren.

Schlüsselwörter: Klimawandel, Umweltethik, Religion, Soziologie der Erziehung und des Wissens

Contents

Declaration

I confirm that no part of the material contained in this thesis has been previously submitted for any degree in this or in any other university. All the material is the author‘s own work, except for quotations and paraphrases, which have been suitably indicated.

Acknowledgements

My sincere appreciation goes to my supervisors, Prof. Dr. Boike Rehbein and Prof. Dr. Rolf Hepp of Humboldt University of Berlin and also Prof. Dr. Dr. Bernhard Uhde of Albert-Ludwigs University of Freiburg for giving me the academic guidance throughout the study. And special thanks to my first Professor, late Prof. Dr. Herman Schwengel of Sociology Institute of University of Freiburg, without whom it is unlikely that this thesis would have materialized. I would like to thank them especially for their reliable promptness in reading my work and for replying with their comments. While I am greatly indebted to their invaluable suggestions and remarks, I accept full responsibility for any mistakes that remain.

I also would like to thank Mrs. Valeria Bustamante and Mr. Ivan Guzman for correcting grammatical errors in the thesis. She sincerely helped me to bring this thesis into its “almost” grammatical perfection.

Finally, I dedicate this work to the Bodhisattva of Wisdom Shri Manjushree Yamantaka, and to all my Buddhist teachers that have guided me from my childhood until today. I dedicate the merit of creating this work to the ultimate happiness of all living beings. Words cannot express my deep gratitude for everything you have done for me.

List of Tables and Figures

1. THE ETHIC BEHIND CLIMATE CHANGE

"Who controls the food supply controls the people; who controls energy can control whole continents; who controls money controls the world."

- Henry Kissinger

If so many people are concerned about Climate Change, the environment, and sustainability, why aren't more of us doing what is necessary to ameliorate the problems? Of course, many individuals and organizations have already taken some steps in this direction, and some have taken many steps. However, in the aggregate, humans continue to produce massive quantities of greenhouse gases that will further drive Climate Change, and we continue to engage in other environmentally destructive behavioural patterns.

The global mean temperature has risen approximately 0.76°C since 1850 and continues to rise, largely as a result of human activities that increase the concentration of greenhouse gases in the atmosphere (i.e. burning fossil fuels, land use change) (IPCC 2001). Without successful efforts to reduce worldwide greenhouse gas emissions, particularly of carbon dioxide, the global mean temperature may rise an estimated 1.1°C to 6.4°C over the next 100 years. Yet, increases in global mean temperature of just 1.5°C to 2.5°C will provoke major changes in ecosystem structure and function, threatening many species and negatively impacting ecosystem goods and services (i.e. water and food supply). Climate Change impacts already documented include accelerated glacier retreat from the arctic to the tropics, longer growing seasons, shift of species ranges, increases in extreme meteorological events (severe storms, drought, heat waves), ocean acidification, and changing weather patterns, with

scientists reporting that some changes like Antarctic ice cap melting and sea level rise are happening more rapidly than initially predicted.

These changes are affecting populations across the globe, whether through direct environmental consequences or economic, social or security ramifications. In order to stabilize the atmospheric carbon dioxide concentration to between 445 and 490 ppm (for an estimated global mean temperature increase of 2°C to 2.4°C above the pre-industrial average), current worldwide emissions would need to peak before 2015, and be reduced from 50% to 85% of 2000 levels by 2050 (IPCC 2001, p.04-15)1.

Climate Change must be understood and responded to as a profound problem of global justice and ethics. This is so because: (a) it is a problem mostly caused by some nations and people emitting high-levels of greenhouse gases (GHG) in one part of the world who are harming or threatening tens of millions of living people and countless numbers of future generations throughout the world who include some of the world's poorest people who have done little to cause the problem, (b) the harms to many of the world's most vulnerable victims of Climate Change are potentially catastrophic, (c) many people most at risk from Climate Change often cannot protect themselves by petitioning their governments; their best hope is that those causing the problem will see that justice requires them to greatly lower their GHG emissions, (d) to protect the world's most vulnerable people nations must limit their GHG emissions to levels that constitute their fair share of safe global emissions, and (e) Climate Change is preventing some people from enjoying the most basic human rights including rights to life and security among others. Because Climate Change is a profound problem of justice, those causing the problem may not use self-interest alone as justification for their policy responses to humanity.

---

[1] Chapter 2 further elaborates on present Climate Change interventions

1.1. The Causes of the Crisis

The world's present institutions have failed to address adequately the threat of Climate Change[2]. No politician has been willing to sacrifice the short-term economic welfare of his or her country, even while agreeing that sustainability is essential in the long term. The environmental crisis is not simply an issue of technology (as defined by some developed countries). It is neither because our technology cannot provide enough resources for us to consume, nor because we cannot invent more advanced technology to refine the toxic wastes we produce that environmental problems arise. The essence of the modern environmental crisis is about modern civilization and its underlying values. "*Our ecological crisis is the inevitable outcome of the modern economy's insensitivity to the vulnerability and limits of nature, the mad power struggle of modern politics, modern people's universally equating happiness with material satisfaction, and their overwhelming acceptance of a mechanical and dualist view of nature."* (Yang, Tongjin. 2010, p.33).

In a widely reprinted and enormously influential article published in *Science,* "The Historical Roots of Our Ecologic Crisis" (1967), Lynn White, Jr. set the agenda for future environmental ethicists. His fundamental assumption, that what we do collectively depends on what we collectively think; and the corollary to this, that to change what we collectively do depends on changing what we collectively think, led us to the conclusion that if we are to change what we do to the environment, we must begin by changing what we think about the environment. White himself argued that what westerners collectively think about the environment is ultimately derived from a few verses in Genesis (1:26, 28): "*human beings alone among creatures are formed in the image of God, have dominion over nature, and are commanded to subdue it"*. White's specifically

[2] Refer to chapter 2

links the biblical roots with the modern environmental crisis. His further analysis of this point included three major points. First, White believed that one had to identify and criticize the inherited attitudes and values regarding the characteristics of nature, human nature, and the relationship between humanity and nature that underlie our behaviour towards the natural world. He shows, such behaviour was formed not only from the biblical sources, but also due to many western sources expounding such values, and it is perhaps less important than other historical sources such as Greek philosophy, the Enlightenment, modern science, capitalism, consumerism, and patriarchy. Second, White believed that one needed to reinterpret or revise one's inherited attitudes and values regarding the traits of nature, human nature, and the human-nature relationship. Third, White believed that one must develop and defend a new environmental ethic in order to guide and restrain anthropocentric environmental degradation. Because during this time a scholarly discussion in environmental ethics developed, a major theoretical debate between anthropocentrism and non-anthropocentrism became apparent in the late 20th century. Anthropocentrists upheld the conservative western view that only human beings are morally significant. Non-anthropocentrists believed that human centred view is inadequate and the rest of the species are equally important (White, Lynn. 1967, 1203-1207).

1.2. Main Barriers to Human Behaviour Change

American Psychological Association (APA) report on psychology and Global Climate Change has determined that the psychology of a person plays a big part in their pro-environmental beliefs and preventive Climate Change actions. According to Prof. Robert Gifford, "psychological barriers impede behavioural choices that would facilitate mitigation, adaptation, and environmental sustainability" (Gifford 2011). As an environmental psychologist who has spent over 30 years researching and writing about human behaviour in this context, he has developed an ever-growing list of the reasons people don't always behave in pro-environmental ways. These psychological barriers were divided into seven categories and named "the dragons of inaction" (Gifford, 2011, 290–302.)[3].

i. **Limited cognitions** – e.g., ignorance, uncertainty, optimism bias, discounting, numbness, lack of perceived, control over outcomes
ii. **Other people** – e.g., social comparison, social norms, perceived inequity
iii. **Perceived risks** – e.g., time, money, functional, social, physical, psychological
iv. **Discredence** – a general sense of disbelieving, e.g., mistrust, perceived program inadequacy, denial
v. **Ideologies** – e.g., political worldviews, system justification, belief in techno-salvation or superhuman powers
vi. **Sunk costs** – e.g., habit, previous investments, conflicting goals and aspirations
vii. **Limited behaviour** – e.g., rebound effect tokenism

[3] Barriers to Climate Change are further discussed in chapter 3

1.3. The Hypothesis

I believe the research of Prof. Robert Gifford tends to focus on the symptoms of a grim social pathology rather than on the root pathology itself, and present Climate Change efforts by IPCC and UNFCC are directed toward limited goals whose attainment is more cosmetic than curative. As I believe, the true cause of the global environmental problems, including Climate Change, is the present *egocentric*, *selfish ethic-less lifestyle* of humanity. I believe the present "*Ego-centric ethic-less lifestyle"* is fuelled by four kinds of detrimental ideologies[4]. They are as follows;

i. Detrimental ideology of capitalist influenced economic development

ii. Detrimental ideology of human cantered decision making

iii. Detrimental ideology of non-renewable energy consumption, and

iv. Detrimental ideologies of what true happiness and wellbeing is.

[4] The four detrimental ideologies are explained in detail in chapter 3

1.4. A New Mythology to Solve the Problem

The way present Climate Change related actions are unfolding since the past two decades, it seems as if they are moving in circles. In the end nothing has been achieved, all has ended where it started. Sure, I see that there must be a 180 degree change of approach to Climate Change. I believe that world leaders need to consider the ethics of humanity, the ethics of society and the ethics of the natural environments into their decisions. Therefore this thesis tries to present an alternative ethical approach to the problem. This includes primarily a change of world ethics, and perspectives about nature and humanity. World religions' knowledge and their spiritual influences can help to shape environmental ethics of the present civilization.

A frank and transparent discussion of Climate Change's ethical dimensions is essential for making worldwide progress on addressing Climate Change (Paula J. Posas, 2007, 31-49). According to her essay "Roles of Religion and Ethics in Addressing Climate Change" There are some key reasons why it is important to address Climate Change ethically, beyond the obvious reason of it being an honourable and moral way to do business. These other reasons include:

i. Consideration of ethical dimensions often helps leaders to continue to see a common ground and find a way forward. Despite a diversity of ethical approaches to human problems, a convergence of ethical conclusions about some Climate Change issues is possible (i.e. UNFCCC, agreements of the 33rd G8Summit). In areas of no agreement, at least (1) ethically unsupportable conclusions can be clearly identified and (2) compromises among ethically based alternatives can lead the way toward a consensus (Brown 2006). When ethical dimensions are not recognized or addressed appropriately, key issues are missed; negotiations and debates are weakened and progress becomes stalled.

ii. An ethical understanding of the issues highlights starkly what is really at stake and sometimes goes right to the heart of the problem. By identifying what is most important or what principles are at issue, those in discussion can avoid becoming entangled in side debates that fail to take into account the core issues.

iii. Among the economic, political, environmental and social factors considered in decision making, ethical arguments (with big picture and long term views) merit a place at the table. An ethical perspective can sometimes transcend the competition among or compartmentalization of the different factors, allowing key issues to be pulled out and given importance to. An ethical perspective can also be advanced by anyone equally, independent of specialization.

iv. Including ethical issues in discussions forces values out into the open so that they can be discussed and debated. Leaders' values and decisions are then under scrutiny and they can be held accountable, e.g. in the polls, elections for obvious disregard for ethics.

v. An ethical way of looking at things lends importance to the voices of those who are vulnerable or negatively impacted because in an ethical context those voices are highly relevant. Acknowledgement and discussion of harm promotes a culture of taking responsibility, if only because of increased awareness due to consequences, impacts, and likely recipients of harm having been clearly presented and considered.

vi. There is an imperative and urgency that all people and nations work on the climate challenge together, or all will suffer the interconnected consequences. Behaving ethically keeps everyone at the table, maintains cordial relationships and facilitates working together over the long term, which this task most assuredly requires (Paula J. Posas, 2007, 02-16).

1.5. The Role of Religions and Environmental Ethics at this Time

I suggest solving the environmental and climate problems by educating the present and future generations through holistic education approaches. But since knowledge and education alone cannot change harmful human behaviour (to create pro environmental behaviour), there should be a change in pro-environmental social, economic and political ethics as well. So we are talking about “an Ethical Revolution” in social, economic and political realms.

However, I believe that we, as a global society, are less aware of the inner spiritual crisis that underlies this outer environmental crisis. As I hypothesised previously our present outer ecological crisis is a reflection of an inner spiritual crisis of human consciousness. The interconnection between the outer and inner is foundational to life, both our individual life and the life of all of creation, as has been understood by the world religions since the very beginning; therefore we cannot address our outer ecological crisis without a real consciousness of the inner situation. We cannot redeem our physical environment without restoring our relationship to the inner sacredness. The role of religion is to mediate these ethical changes of human consciousness (altruism, empathy, intrinsic value of all life, and pro-social behaviours etc.) into the world society, governance and the economy.

Therefore world’s religious traditions and the Environmental Ethics Movement (EEM) must play a major role in enabling societies and individuals to take effective and ethical actions to address the causes and impacts of Climate Change. The philosophies that the Environmental Ethics Movement functions upon are primarily originated from ancient religious philosophies. It would be correct to say that the EEM has intuitively

taken up the approach suggested by Karl Mannheim in *Sociology of Knowledge*[5] to interpret ancient knowledge in their propagation. I believe that the Climate Change adaptation and mitigation movements (IPCC and UNFCC etc.) should unite with the EEM in the future to tackle Climate Change.

There are several distinctive features of environmental ethics that deserve one's attention. First, environmental ethics is extended traditional ethics, mainly concerning intra-human duties, especially duties among contemporaries. Environmental ethics extends the scope of ethical concerns beyond one's community and nation to include not only all people everywhere, but also animals and the whole of nature – the biosphere – both now and beyond the imminent future to include future generations. Secondly, environmental ethics is interdisciplinary. There are many overlapping concerns and areas of consensus among environmental ethics, environmental politics, environmental economics, environmental sciences and environmental literature, for example. The distinctive perspectives and methodologies of these disciplines provide important inspiration for environmental ethics, and environmental ethics offers value foundations for these disciplines. They reinforce, influence and support each other. Thirdly, environmental ethics is plural. From the moment it was born, environmental ethics has been an area in which different ideas and perspectives compete with each other. Anthropocentrism, animal liberation/rights theory, biocentrism and ecocentrism, all provide unique and, in some sense, reasonable ethical justifications for environmental protection. Their approaches are different, but their goals are by large the same, and they have reached this consensus: it is everyone's duty to protect the environment.

---

[5] Refer to chapter 6

1.6. Chapter Outline

1.6.1.Part 1: The Present Climate Change Actions and their Errors

Chapters 2 and 3:

Chapter 2 outlines the theoretical scientific causes behind Climate Change according to modern environmental sciences. It also looks at the history of international Climate Change interventions up to today. It also looks at my argument on why the present actions are erroneous. The hypothesis of this thesis is presented in chapter 3 and further, the theoretical foundation behind my hypothesis is explained.

1.6.2.Part 2: Alternative Knowledge and Approaches

Chapters 4 and 5:

As my hypothesis believes that climate and environmental sciences have major gaps in understanding nature as a whole, these chapters explore how the world's environmental knowledge base can be enriched by integrating traditional, indigenous and religious knowledge. These chapters discuss knowledge sources that still remain hidden as traditional indigenous and religious knowledge, popularly known as Traditional Knowledge (TK).

Chapters 6, 7 and 8:

Chapter 6 focuses on the sociological aspects of interpreting foreign knowledge. This section introduces the concepts and theories of Sociology of Knowledge of Karl Mannheim. Its purpose is to understand the structure of knowledge and the methods interpreting its true meaning. This chapter also focuses on education as the main method of knowledge integration and dissemination. What use does new knowledge

hold if it cannot be transmitted to others and cannot be used for good means? Therefore Sociology of Education by Karl Manheim plays a role in disseminating understandings gathered through Sociology of Knowledge. Practically, the theory of Sociology of Knowledge suggests it has been applied practically by the Environmental Ethics Movement today.

Chapter 6 links with chapter 7 because it discusses the Environmental Ethics Movement and its ideologies and utopias. The Environmental Ethics Movement is a result of half a century of effort to integrate a variety of traditional and religious knowledge into the mainstream scientific environmentalism. Environmental ethics is in a way an approach to translate the essential meaning of traditional knowledge to match the thinking of the modern civilization. Therefore, I see a link between Sociology of Knowledge and Environmental Ethics Movement.

Chapter 8, Bridging the Gaps, focuses on how Buddhist philosophies can help to bridge the practical drawbacks and knowledge gaps the present Environmental Ethics Movement is facing. Because I see that the environmental ethics' views seem to lack a human friendly attitude towards society and development, and it seems to be less effective against Climate Change problems that average humans are facing.

1.6.3.Part 3: Examples of Alternative Environmental Actions

Chapter 9: Case studies of alternative methods of education

Chapter 9 discusses the practices of two environmental institutes that have an alternative approach to education and sustainable living. They have integrated environmental protection into their day to day activities. The first case study is about an American university that has a different approach to education and sustainable living. I

discuss the case of Warren Wilson College, a four-year liberal arts university, in the USA.

Then I present an eco-community in the United Kingdom, known as the BedZED community, and how their innovative eco-friendly eco-village technologies have reduced the carbon foot print.

Chapter 10: **Case studies of a Buddhist Non Governmental Organization**

This chapter looks at a Sri Lankan Local Nongovernmental Organization, who has an alternative Buddhist-inspired approach to sustainable development and social resilience development. Such an organisation could provide a good example for future developmental NGOs.

Chapter 11: Discussion

This chapter summarises the essence of the dissertation and discusses how religions can be a source of new environmental ethics to resolve the four (**example**) harmful ideologies that are causing environmental degradation.

2. THE PRESENT STATUS OF CLIMATE CHANGE

"The clear and present danger of Climate Change means we cannot burn our way to prosperity. We already rely too heavily on fossil fuels. We need to find a new, sustainable path to the future we want. We need a clean industrial revolution."

- Ban Ki-moon

For some time, science has predicted that the planet is vulnerable to global warming caused by rising levels of carbon dioxide and other greenhouse gases in the atmosphere. The problem has its origins in the way life evolved on Earth. The conditions that are necessary for life in the biosphere are the result of a complex set of delicately balanced systems which are still poorly understood. The atmospheric composition that permits life to exist was itself created in part by the action of the first living things. The earliest plants removed carbon dioxide from the atmosphere and added oxygen, making animal life possible. Dead plants, both the remains of marine plankton and terrestrial vegetation, were buried and their energy-containing carbon compounds fossilized to produce coal, oil and gas, while their carbonate skeletons became layers of limestone, locking a significant part of the Earth's carbon away in geological formations. Carbon cycles through the biosphere, as plants take up carbon dioxide to make organic matter, while animals and decomposers oxidize organic compounds and return the carbon dioxide to the oceans and atmosphere. Today, the long-standing global balance between these processes has been upset by the extraction and combustion of fossil fuels - coal, oil and gas - over the last 150 years, returning carbon to the atmosphere and oceans that has long been out of circulation (IPCC 2004, 08-22).

The significance for the climate is that carbon dioxide, along with another carbon compound, methane, is among the most important greenhouse gases, trapping heat in the atmosphere in the same way as the glass in a greenhouse lets in light but prevents heat from escaping. Since the beginning of the industrial revolution powered by fossil fuels, the concentration of atmospheric carbon dioxide has risen from 290 to 370 parts per million (ppm), and it could easily reach 550 ppm or more in mid-century. Every ton of burned fuel oil produces 2.9 tons of carbon dioxide (CO_2), while extracting the same energy from coal produces 3.8 tonnes of CO_2. Deforestation and the loss of humus from degrading soils also release significant quantities of carbon dioxide to the atmosphere, representing one-third of the increase (IPCC 2004. 08-22).

While the rising levels of greenhouse gases will trap more heat and change the air circulation patterns and climate, the effects will be highly variable around the world and are not easy to predict. Using various computer models of the global climate system, more than a thousand scientists contributing to the Intergovernmental Panel on Climate Change have confirmed a significant human effect on the climate through global warming, and more is expected (IPCC 2007 b, 20-25.). While powerful political and economic interests have questioned the reality of any link between fossil fuel consumption and Climate Change, none of their arguments have withstood closer scientific scrutiny. The evidence for accelerating global warming is accumulating rapidly. The global average surface temperature has risen markedly since the late 1970s. Nine of the ten warmest years on record have occurred since 1995. The models project an even faster rise in global temperature over the next century as greenhouse gas emissions continue. The greatest temperature changes are expected in polar areas. A rise of more than 2°C in the mean global temperature could trigger negative feedbacks that would make major Climate Change irreversible, and we could reach that point by

2035 if we continue business as usual, with a rise of up to 5°C possible by the end of the century (IPCC 2007b, 20-25). This is change at a speed and scale for which there is no planetary precedent.

2.1. Effects are Becoming Evident

The effects are already apparent. Many species in temperate areas are shifting their distributions, with cold-adapted forms retreating toward the poles, to be replaced by species from warmer climates. Similar shifts in altitude are occurring among mountain species. Arctic species, like polar bears, that are dependent on the ice, are in great difficulty. Coral reefs around the world have bleached and died from unusually high water temperatures. The number of the most intense cyclones (hurricanes) has increased in all oceans over the last 30 years, driven by greater heat energy in tropical ocean waters (IPCC 2005, 01-10).

One effect of global warming is a rise in sea level, due to both, the thermal expansion of water and the melting of glaciers and ice caps. Sea level rise will flood low-lying areas and islands, including many port cities, creating millions of refugees. The projections for Bangladesh show, a 1.5 meter rise will displace 17 million people from 16 percent of the country's area. If the Greenland ice sheet is destabilised - which now appears to be likely - it will raise the sea level by more than 6 meters. Already some low-lying islands and coastal areas are being abandoned (IPCC 2001).

Climate Change on the predicted scale will profoundly affect the environment and human activity in many fundamental ways. Food insecurity will increase and many regions will experience water shortages as rainfall patterns shift and mountain glaciers disappear. Rich countries can probably afford to adapt their agriculture with improved crop varieties and new technology, but all scenarios show a severe decline in food production in developing countries. The greatest human impact of Climate Change will be on the poor, who are especially vulnerable to the predicted increase in extreme weather events such as floods, cyclones and droughts - the latter particularly pertaining

to Africa. Ocean fisheries will also be affected. Already fish stocks in the North Sea are shifting to other areas. As populations are displaced, there will be increasing flows of environmental refugees, possibly reaching tens or hundreds of millions, and the related social disintegration could lead to the increase of anarchy and terrorism. Natural, economic and social disasters will become more common and more severe (IPCC 2005, 12-16). Ecological systems and species will be severely impacted, greatly accelerating the loss of biodiversity. American scientists have calculated that Climate Change would cause conditions, appropriate for the beech forests of the south-eastern United States to move to north-eastern Canada. Thus, whole ecosystems will shift over long distances if they can move fast enough. In the past, such changes happened more gradually. Birds can fly, but trees cannot get up and move to find a better temperature, and human transformations have blocked migration paths. We may have to replant the forests ourselves (IPCC 2005).

The costs of mitigation and adaptation will be enormous, but the cost of not doing anything is already very high and could rise astronomically. The insurance industry estimated a few years ago that the economic impact of natural disasters linked to global warming would reach an annual cost of US$130 billion within 10 years, but hurricanes Katrina and Rita in the USA in 2005 alone caused damages reaching US$204 billions (Stern 2007). A recent report commissioned by the UK government estimated the annual cost of Climate Change if no action is taken at over US$600 billion, or the equivalent of both World Wars and the Great Depression, while mitigating action would only amount to 1 percent of global GDP. Immediate action will be very cost effective and any delay will raise the cost significantly (Stern 2007, 03-12).

The World Resources Institute (WRI) has created a new very helpful website that allows visual comparisons of up to four nations at a time and up to eight of 24 variables

at a time relevant to determining what equity requires of nations in formulating their climate policies. The website is called Equity Tracker and is available at: http://cait2.wri.org/equity/.

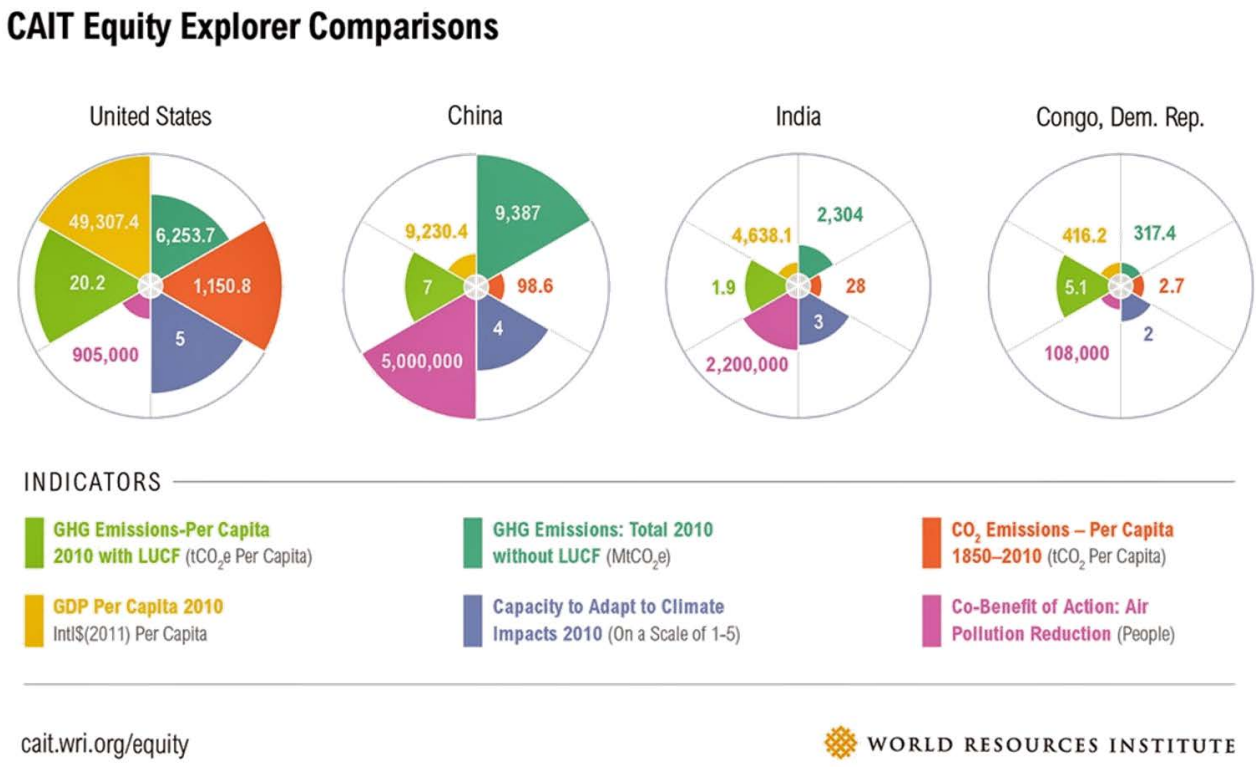


Figure 1: Comparison of Emissions

The above figure from the website demonstrates how one could visualize differences between nations on factors relevant to what equity requires of them and thereby understand why some nations must make much deeper cuts than others as a matter of equity and justice. This information could be very valuable in deepening citizen and government reflection on ethical justice and equity problems with national responses to Climate Change. As a matter of equity, the website helps to quickly visualize why the United States must make deeper percentage cuts in its GHG emissions than India and the Democratic Republic of Congo, not to mention China, for instance.

2.2. Chronology of Climate Change Interventions

In 1992, countries signed an international treaty, the United Nations Framework Convention on Climate Change, to cooperatively consider what they could do to limit average global temperature increases and the resulting Climate Change, and to cope with whatever impacts were, by then, inevitable. By 1995, countries realized that emission reductions provisions in the convention were inadequate. They launched negotiations to strengthen the global response to Climate Change and, two years later, adopted the Kyoto Protocol. The Kyoto Protocol legally binds developed countries to emission reduction targets. The Protocol's first commitment period started in 2008 and ended in 2012. The second commitment period began on 1 January 2013 and will end in 2020. There are now 195 parties to the convention and 192 parties to the Kyoto Protocol. The UNFCCC secretariat supports all institutions involved in the international Climate Change negotiations, particularly the Conference of the Parties (COP), the Conference of the Parties serving as the meeting of the Parties (CMP), the subsidiary bodies (which advise the COP/CMP), and the COP/CMP Bureau (which deals mainly with procedural and organizational issues arising from the COP/CMP and also has technical functions). For a brief depiction of how these various bodies are related to one another, please see Bodies (UNFCC 2014, website)[6].

[6] http://unfccc.int/essential_background/items/6031.php

Climate Change interventions chronologically

2013 — Key decisions adopted at COP19/CMP9 include decisions on further advancing the Durban Platform, the Green Climate Fund and long-term finance, the Warsaw Framework for REDD Plus and the Warsaw International Mechanism for Loss and Damage.

2012 — The Doha Amendment to the Kyoto Protocol is adopted by the CMP at CMP8. More on the Doha Amendment. Several decisions taken, opening a gateway to greater ambition and action on all levels.

2011 — The Durban Platform for enhanced action drafted and accepted by the COP, at COP17.

2010 — Cancun Agreements drafted and largely accepted by the COP, at COP16.

2009 — Copenhagen Accord drafted at COP15 in Copenhagen. This was taken note of by the COP. Countries later submitted emissions reductions pledges or mitigation action pledges, all non-binding.

2007 — IPCC's Fourth Assessment Report released. Climate science entered into popular consciousness. At COP13, Parties agreed on the Bali Road Map, which charted the way towards a post-2012 outcome in two work streams: the AWG-KP, and another under the Convention, known as the Ad-Hoc Working Group on Long-Term Cooperative Action under the Convention.

2005 — Entry into force of the Kyoto Protocol. The first Meeting of the Parties to the Kyoto Protocol (MOP 1) takes place in Montreal. In accordance with Kyoto Protocol requirements, parties launched negotiations on the next phase of the KP under the Ad

Climate Change interventions chronologically

Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol (AWG-KP), what was to become the Nairobi Work Programme on Adaptation (it would receive its name in 2006, one year later) is accepted and agreed on.

2001 — Release of IPCC's Third Assessment Report. Bonn agreements adopted, based on the Buenos Aires Plan of Action of 1998. Marrakesh Accords adopted at COP7, detailing rules for implementation of Kyoto Protocol, setting up new funding and planning instruments for adaptation, and establishing a technology transfer framework.

1997 — Kyoto Protocol formally adopted in December at COP3.

1996 — The UNFCCC Secretariat is set up to support action under the Convention.

1995 — The first Conference of the Parties (COP 1) takes place in Berlin.

1994 — UNFCCC enters into force. An introduction to the United Nations Framework Convention on Climate Change.

1992 — The INC adopts UNFCCC text. At the Earth Summit in Rio, the UNFCCC is opened for signature along with its sister Rio Conventions, UNCBD and UNCCD.

1991 — First meeting of the Intergovernmental Negotiating Committee (INC) takes place.

1990 — IPCC's first assessment report released. IPCC and second World Climate Conference call for a global treaty on Climate Change. United Nations General Assembly negotiations on a framework convention begin.

Climate Change interventions chronologically

1988 — The Intergovernmental Panel on Climate Change is set up.

1979 — The first World Climate Conference (WCC) takes place.

2.3. The Failure of Kyoto Protocol

Over the past decade, as the evidence of Climate Change became clearer and better understood, a strong international movement for action has emerged. In 1992 at Rio de Janeiro, more than 180 countries signed the United Nations Framework Convention on Climate Change, which outlined the need to reduce greenhouse gas emissions as a global response to Climate Change. The UNFCCC came into effect in March, 1994, but despite this establishment, very little action was taken around the world. The Kyoto Protocol, which was agreed upon on December 11, 1997, at a meeting of the UNFCCC in Kyoto, Japan, was created as an effort to force action on the international community. Under the Kyoto Protocol, industrialized nations agreed to cut their greenhouse gas emissions to a certain percentage below 1990 levels. The year 1990 was chosen as a baseline because that was the year when the UN first launched negotiations on Climate Change. These total cuts in emissions would have to be accomplished by the target period of 2008-2012. The Kyoto Protocol applies to industrialized nations only. Developing countries, including India and China, were not required to commit to reductions because their per-capita greenhouse gas emissions are much lower than those of developed nations. This decision also took into account the fact that the poorer economies of the developing countries would be unable to absorb the costs of switching from a fossil fuel based system to cleaner fuels. The plan is that poorer countries will be brought more actively into future Climate Change agreements as cleaner technologies develop and become less expensive (UNFCC 2014, webpage).

The European Union and Japan, which are the two large players that firmly support the Protocol and have ratified it, have been working frantically to keep support for the Kyoto Protocol in place. Both are relatively small, densely populated, developed

countries that do not have access to their own low-cost sources of fossil fuel or hydro power. Setting aside environmental considerations, they see economic advantages for themselves if the Protocol were put into effect. The most reluctant supporters of the treaty are the large, sparsely populated, developed countries such as the United States, Australia, Russia, and Canada. All of these countries have relatively cheap energy supplies and, in the short run, their economies and businesses would likely be at a disadvantage if the Protocol were implemented without added incentives. Although all countries that signed the Kyoto Protocol agreed to greenhouse gas "reductions," they did not agree on what exactly is to be counted as "reductions". Some countries, particularly Canada and Russia with their large forests, argued that they should receive credits towards their reduction targets for these "carbon sinks" that absorb greenhouse gases out of the atmosphere from across the globe. Other countries argued that integrating the planting of forests as a part of regular industrial projects should count in the same sort of way. At present, no penalties exist for a country that ratifies the Protocol and fails to meet its reduction targets. The Kyoto Protocol was completely unbinding and seemed to embody something that did not need to be taken seriously since there are no consequences for non-compliance (UNFCC 2014, web page).

2.4. Failing Again at the Copenhagen Summit

The Copenhagen Conference took place from December 7-19, 2009. Copenhagen was intended to be the culmination of a two-year negotiating process that was agreed upon in Bali, Indonesia, in December 2007. The first major addition to the UNFCCC was the Kyoto Protocol which was negotiated in 1997 because the international community had been convinced by emerging Climate Change science that developed nations needed to be bound by numerical emissions reduction targets. The Kyoto Protocol entered into force on February 16, 2005 and currently has 190 parties. The United States are the only developed country that never ratified the Kyoto Protocol. Under the Kyoto Protocol, the developed countries agreed to reduce their overall emissions of six greenhouse gases by an average of 5.2% below 1990 levels between 2008 and 2012. The developing countries had no binding emissions reduction obligations under Kyoto. The Copenhagen negotiations were necessary because the emissions reduction obligations of developed countries set out in the Kyoto Protocol expire in 2012 (Brown, D, 2009c, 20-36).

The Copenhagen meeting was attended by 110 heads of state, hundreds of ministers from every part of the world, as well as thousands of registrants from nongovernmental organizations, the media, UN-agencies – more than 40,000 people in a facility with a capacity of 15,000. During most of the two weeks, little progress was made with many sessions memorable for acrimonious exchanges between developing and developed countries. Throughout the two weeks in Copenhagen, attendees from poor, at-risk countries could be heard despairingly describing killer droughts and growing deserts in Africa, loss of glacier-fed water supplies on which their agriculture depends for millions in Central Asia and South America, and rising seas that are now threatening the very existence of small island states. Suffering caused by the human-

induced warming that the Earth has already experienced is now visible around the world although mostly in poor developing countries. Because warming is expected to accelerate in the years ahead, for many poor countries Climate Change is now understood to be an urgent matter of life and death. During the Copenhagen conference representatives from poor, vulnerable nations begged developed countries to: (a) commit to reduce GHG emissions to levels necessary to prevent dangerous Climate Change and (b) to fund adaptation programs in developing countries that are necessary to protect the most vulnerable from Climate Change impacts that could be avoided and compensate for damages that could not be avoided. Despite these pleas, not much happened during the conference to resolve the most contentious issues. A large part of this time of these negotiations was focused on a dispute between the United States and China on whether China would agree to monitoring and verification of Chinese Climate Change commitments (Brown, D, 2009c, 40).

The Copenhagen Summit was an immense global catastrophe because (Doniger, D., 2009):

i. It did not produce any legally binding, enforceable global deal that met the objectives of the meeting.

ii. It did not achieve greenhouse gas reductions commitments congruent with what science is now saying is necessary to protect the most vulnerable people in the world and avoid dangerous Climate Change.

iii. It allowed big countries to block a 1.5°C atmospheric stabilization target desired by the most vulnerable developing countries. Although the text sets an unenforceable goal of 2°C and allows for a review of whether a 1.5°C target is necessary, this review does not take place for 5 years and most scientists argue that global emissions must peak before this to avoid catastrophic Climate Change.

iv. And it abandoned much of the UNFCCC approach to Climate Change set process out in the architecture of the Kyoto Protocol.

v. It reached no agreement on an emissions baseline year so that some nations, including the United States, were able to make reduction commitments from 2005 despite the fact that most of the world had agreed to 1990 as the baseline year under the Kyoto Protocol.

vi. It produced the Accord, an outcome that angered many developing countries whose positions were set out in detail in the texts that had been under negotiation for two years before Copenhagen.

vii. It did not significantly move forward on the institutional issues related to deforestation programs, technology transfer, or capacity building. Many issues in the negotiating text on these issues were ignored.

viii. It ignored hundreds of pages of negotiating text through the production of a three-page Accord without consulting most of the parties that had been negotiating the text.

ix. It put into jeopardy, the international trading flexibility mechanisms that had come into existence under the Kyoto Protocol.

x. It made no progress on the UNFCCC promise that developed countries should reduce their emissions based “equity’ to prevent dangerous anthropogenic interference with the climate system.

2.5. Is There Still Hope Left?

Despite near-collapse at each of the last three annual conferences of the UN Framework Convention on Climate Change (UNFCCC), the international negotiations always seem to pull back from the brink. Why? Because no country is willing to abandon the goal of an international regime which will effectively combat dangerous Climate Change. So the search for an international agreement continues. The negotiations tackle four principal issues: ambition, legal form, assistance to developing countries and rules and institutions (UNFCC, 2014).

i. On **ambition**, the goals the international community sets to reduce emissions – there are in practice no real negotiations at all. Countries commit to whatever their domestic economic and political pressures determine. The global emissions reduction, and its distribution between countries, is then whatever collectively results. At present the sum of country commitments falls far short of the UN's own agreed goal to limit global warming to a maximum of 2°C above pre-industrial times. At the 2011 conference in Durban, it was agreed that this "emissions gap" must be closed; but it remains difficult to see who will make the extra effort, at least before 2020. Much will depend on whether countries' experience of implementing low-carbon measures gives them greater confidence in the possibility of further reductions in the future. The problem of equity remains a major obstacle: developing countries ask why they should do more if the richest countries – particularly the US – do not do enough. It remains to be seen whether sufficient pressure can be applied by the poorest and most climate-vulnerable countries, and by domestic and international civil society, to change the major emitting countries' commitments.

ii. On **legal form**, the 2011 conference achieved an unexpected breakthrough. It was agreed to begin a new round of negotiations towards a new "protocol, another legal instrument or an agreed outcome with legal force", to be concluded by 2015 and to take effect after 2020. At the same time the Kyoto Protocol, thought to be on the verge of collapse, was kept alive until at least 2017. This was remarkable because the goal of a new internationally legally binding agreement had been specifically rejected at the 2009 conference in Copenhagen, in an effective deal between the US and the "basic" group of emerging economies (China, India, Brazil and South Africa). This goal has not only now been accepted but explicitly made "applicable to all countries", which is widely understood to mean that developing as well as developed countries should in future take on binding commitments. This overcomes the principal objection which the US always had to the Kyoto Protocol – being that it didn't apply to the major emerging countries such as China. There remains huge contention over the precise nature of "an agreed outcome with legal force", and no guarantee of final agreement, but the deadline of 2015 gives a powerful boost to the negotiation process.

iii. On **financial assistance** to developing countries, both for adaptation to the effects of Climate Change, and to help them mitigate their emissions, negotiations have effectively stalled. In Copenhagen developed countries committed to providing US$100bn by 2020. But there is dispute over how much of this must be publicly and how much can be privately financed; and whether the public money will be "additional" to existing aid commitments. Moreover, few developed countries have yet stated what they will provide in the much shorter term of 2013. In the present economic climate the likelihood is that assistance levels will fall, which will increase anger among developing countries and induce further accusations of broken pledges.

iv. On **technology**, the goal of developing countries has long been the free or cut-price transfer of low-carbon technologies from developed countries, including the intellectual property rights which would allow domestic manufacture. But this has always been rejected by developed countries, concerned to protect their trading advantages. Negotiations are now focused on more limited goals of co-operation on technology development and deployment[7].

[7] http://www.lse.ac.uk/GranthamInstitute/faqs/what-is-the-state-of-international-climate-talks/

2.6. Conclusion

The way the present Climate Change related actions are unfolding since the past two decades, it seems as they are moving in circles. In the end nothing has been achieved, all has ended where it started. I see that there must be a 180 degree change of approach to Climate Change. I believe that world leaders need to consider the ethics of humanity, the ethics of society and the ethics of the natural environments into their decisions. I believe world's present institutions have failed to address adequately the threat of Climate Change. No politician has been willing to sacrifice the short-term economic welfare of his or her country, even while agreeing that sustainability is essential in the long term. Furthermore, the deep social, economic and political divisions within societies and between countries prevent united action in the common interest. Global warming is just one symptom of the fundamental imbalances in our world and of the failure of our systems of governance to resolve the most critical challenges of our age.

We must recognize the failure of our present economic system to address global long-term issues like global warming. Economic thinking is challenged by the environmental crisis - including global warming. The belief that there is no limit to nature's capacity to fulfil any demand made on it is demonstrably false. A culture which attaches absolute value to expansion, to acquisition, and to the satisfaction of people's wants must recognise that such goals are not, by themselves, realistic guides to policy. Economic decision-making tools cannot deal with the fact that most of the major challenges are global.

Therefore this dissertation tries to present an alternative (out of the box) ethical approach to the problem. This includes primarily a change of world environmental ethics and the perspectives about nature and humanity. I believe ancient religious knowledge

and their spiritual influences can help to shape environmental ethics of the present civilization[8].

[8] The role of Sociology of Knowledge in this scenario is to meditate, interpret and translate the utopia knowledge that is hidden in ancient religious knowledge, and present it as an appropriate format to the modern civilization, read chapter 6 for further information on Karl Manheim's Sociology of Knowledge.

3. RESISTANCE TO RESILIENCE

"Resilience is accepting your new reality, even if it's less good than the one you had before. You can fight it, you can do nothing but scream about what you've lost, or you can accept that and try to put together something that's good."

- Elizabeth Edwards

The main theoretical vision and goal behind all Climate Change negations are to make the polluting countries reduce their GHG emissions so that the global temperature rise is minimised and the related disasters are at a manageable level. Nobody is expecting to bring a 100% halt to carbon emissions. It is not working because the problem is not looked at from the point of the environment itself. It is a fact that the environment can regenerate and regulate itself on its own if we slow down the human caused environmental damage.

I believe, *"a better Climate Change adaptation target would be to know how we can develop a global community that is strong enough (resilient enough) to face the changes in the climate and the potential environmental consequences, but at the same time manage an environmentally sustainable lifestyle without further worsening the damage"***.** I think none of the agencies of the CC community have addressed the true causes of Climate Change and environmental destruction, which are ***consumerism and capitalism*** according to my view***.***

Why? It is because without the financial support from the ruling nations, and groups of consumerism and capitalism UNFCC or IPCC, other agencies have no existence at all. ***Consumerism and capitalism*** are the true reasons why Kyoto

Protocol and Copenhagen Summit did not achieve their aims. But the purpose of this thesis is not to point fingers to anyone, but just to present an alternative possibility that is not tinged by ***consumerism and capitalism.***

3.1. Theories of Resilience and Vulnerability

“Resilience” is a new word that has become a key word in environmental circles during the past decade. Traditionally resilience is mentioned in the context of ecosystems, therefore ecosystem resilience is the capacity of an ecosystem to tolerate disturbance without collapsing into a qualitatively different state that is controlled by a different set of processes. A resilient ecosystem can withstand shocks and rebuild itself when necessary. Resilience in social systems has the added capacity of humans to anticipate and plan for the future. Humans are part of the natural world because we are still very much dependant on natural resources. Therefore it is qualified to call it a Social-Ecological System (SES). We depend on ecological systems for our survival and we continuously impact the ecosystems in which we live from the local to global scale. Resilience is a property of these linked Social-Ecological Systems (SES). "Resilience" as applied to ecosystems, or to integrated systems of people and the natural environment, has three defining characteristics (Adger W. N. 2000, 347 -364):

- The amount of change the system can undergo and still retain the same controls on function and structure
- The degree to which the system is capable of self-organization
- The ability to build and increase the capacity for learning and adaptation

Resilience has been studied across a range of disciplines, and there is no clear and widely agreed-upon definition of social resilience. Below is an overview of the origins and different perspectives of resilience. The term ‘resilience’ was first used by engineers to refer to the ability of a material to return to a pre-existing state after being stressed (Gallopin 2006, 293-303). Resilience has also been studied for many decades within psychology, in the context of individuals coping with trauma and major life events (Gallopin 2006, 293-303). The concept of resilience was also applied within ecology,

when Holling (1973, 1-23) used it to describe the ability of an ecosystem to absorb and adapt, to change and maintain its existing state of functioning. In the late 1980s, the ecological concept of resilience was applied to understand interactions between people and the environment. In this context, the resilience concept was used to recognise the complexity of community-environment interactions, and the complexity of change. More recently, work on resilience has also included the social dimensions of change (Janssen and Ostrom 2006, 237-9). Social resilience differs from 'individual resilience' in that it takes into account the economic, institutional and social dimensions of a community. It extends the ecological perspective of resilience to recognise the ability of people to organise themselves. Recent perspectives on resilience can be summarised into three major views - a common aspect in all perspectives is the ability to withstand and respond positively to stress or change (Folke 2006, 253-67):

i. **Resilience as stability:** buffer capacity
ii. **Resilience as recovery:** bouncing back
iii. **Resilience as transformation:** creativity

i. Resilience as stability

The stability view of resilience, developed from early ecological studies, defines resilience as the ability to return to a pre-existing state. This view of resilience is measured as the amount of disturbance a system can tolerate ('absorb') before it shifts to another state (Folke, 2006, 253-67). Some researchers describe a threshold beyond which a community is unable to return to its functional state. A resilient community has a high threshold – it is able to absorb considerable stress before it breaches its threshold.

ii. Resilience as recovery

The recovery view of resilience relates to a community's ability to 'bounce back' from a change or stressor and to return to its original state. Resilience here is measured as the time taken for a community to recover from a change (Folke, 2006, 253-67.). A resilient community is able to return to its pre-existing state relatively quickly, whereas a less resilient community may take longer or may not be able to recover at all. The stability and recovery views of resilience have a deterministic understanding of resilience in that a community (or an individual, or an ecological system) is seen as having an inherent character which enables it (or does not enable it) to cope with a stressor. This view implies that a community as a whole either *is* or *is not* resilient. It fails to take into account the dynamic nature of change and communities, which is recognised in the third view: resilience as transformation.

iii. Resilience as transformation

This more recent view considers social resilience to be the capacity of a community to respond to a change *adaptively*. Rather than simply returning to a pre-existing state, this can mean changing to a new state that is more sustainable in the current environment. For example, an agriculturally-based rural community may develop different economic activities (e.g. tourism) or innovative farming practices that better suit the current environment. The transformation view of resilience is concerned with concepts of renewal, regeneration and re-organisation (Folke, 2006, 253-67). Folke argues that "in a resilient social-ecological system, disturbance has the potential to create opportunity for doing new things, for innovation and for development." A resilient community is able to use the experience of change to continually develop and to reach a higher state of functioning. Rather than simply 'surviving' the stressor or change, a resilient community may respond in creative ways that fundamentally transform the

basis of the community. This perspective recognises that given the dynamic character of communities, they are unlikely to return to a pre-existing state, but will transform in an adaptive way to external change.

The transformation view of resilience is particularly useful for understanding how a community can respond positively to change. It accepts that change is inevitable, rather than seeing change as a 'stressor' from which a community needs to recover to its original state. The view of resilience as transformation embraces the dynamic character of communities and human-ecosystem interactions and sees multiple potential pathways within them. Deterministic views of resilience which see resilience as a community simply returning to a pre-existing state are unable to incorporate this complexity. Viewing resilience as transformation also draws the focus to the adaptive capacities of a community – the characteristics which enable it to develop and innovate in response to a change – rather than its vulnerabilities. It is here that the difference between social resilience and ecological resilience becomes clear. Social resilience recognises the powerful capacity of people to learn from their experiences and to consciously incorporate this learning into their interactions with the social and physical environment. This view of resilience is important for the hypothesis of this thesis, because it acknowledges that people themselves are able to shape the '*trajectory of change'* and play a central role in the degree and type of impact caused by the change.

3.2. Lack of Resilience is Vulnerability

Vulnerability has been studied across a wide range of disciplines and is often considered more difficult to define than resilience (Janssen & Ostrome, 2006, 237-9). Traditionally it has been studied in the field of geography in relation to natural hazards and poverty, and more recently in relation to Climate Change and adaptation. These can be summarised as:

i. **Vulnerability to a "hazard"** – present approach

ii. **Vulnerability as a "state"** – present approach

iii. **Vulnerabilities as a "deficiency of human capacity"** – my hypothesis**.**

i. Vulnerability to a "hazard"

Within the study of natural hazards, a community's vulnerability arises from the physical aspects of the threat itself. A community's vulnerability is defined by the frequency, magnitude, timing, and intensity of the hazard (Fenton *et al.* 2007), with a focus on broad-scale impacts. Human and social elements are usually considered as secondary to the biophysical impacts (Eakin and Lynd Luers 2006, 365-394). From this perspective, vulnerability is defined as an outcome of a hazardous event, and does not include the characteristics of the community which shapes its response to a hazard or other changes.

ii. Vulnerability as a "state"

Vulnerability as a "state" is used to describe a community as inherently vulnerable or not. This view of vulnerability considers the components of the community which make it vulnerable (e.g. socio-economic factors such as poverty, inequality, housing quality and access to services), rather than focusing on the characteristics of a hazard or change. However, when vulnerability is viewed as a "state", these

characteristics are used to label a whole community (or subsections of a community) as intrinsically vulnerable and, by extension, less able to cope with stressors, shocks and change (Brooks 2003).

While both the "*hazard"* and "*state"* approaches recognise that vulnerability cannot be considered independently of the local context (of a change, stressor, or hazard) both have been criticised for a number of reasons. Both approaches take a "deficit" view of the ability of communities to manage or cope with change. This has been used to identify (and "label") vulnerable groups within a community, or to compare levels of vulnerability between communities, leading to differential inputs – positive or negative – into those communities. Both, the natural hazards approach and the application of vulnerability as a state fail to acknowledge the importance of the resources and capacities of a community which enable them to overcome these vulnerabilities and to cope with changes (Brooks 2003, 02-12).

3.3. A Study of Barriers to Pro-Environmental Behaviour

One prominent research direction has focused on the so-called “barriers to action against Climate Change”. Many different barriers have been identified in the literature with differing levels of importance depending on the context of each study (time and place) although some barriers cut across cultures. Barriers can be psychological, socio-cultural and structural (political and economic) (Gifford, 2011, 199-212). These categories are not very clear cut as often as different categories can become intermixed in ways that makes it hard to disentangle them. For example, psychological (e.g. political ideology) and structural (e.g. media coverage) barriers often interact with each other in ways that makes it hard to determine which barriers are the most significant ones.

In some cases, the reasons for this behavioural deficit are structural and therefore beyond an individual’s reasonable control. For example, low income severely limits one’s ability to purchase solar panels, living in a rural area usually means public transport does not exist as an alternative to driving, and living in a region with cold winters restricts one’s ability to reduce home-heating-based energy use. However, for almost everyone who is not severely restricted by structural barriers, adopting more pro-environmental choices and behaviour is possible, but this adoption is not occurring to the extent necessary to stem the increasing flow of greenhouse gases and other environmental damage. Thus, the question remains: What limits more widespread mitigation, adaptation and sustainability actions on the part of individuals for whom such actions are feasible?

Professor Dr. Robert Gifford is a professor of Psychology and Environmental Studies at the University of Victoria, British Columbia, Canada. As an environmental

psychologist who has spent over 30 years researching and writing about human behaviour in this context, he has developed an ever-growing list of the reasons people don't always behave in pro-environmental ways, and has categorised them loosely into seven "Dragons of Inaction". They are as below according to (Gifford, 2011, 199-212):

i. Limited Cognitions

The first one is the limitation that results from how we think about things. There's ignorance (not knowing enough about environmental problems, or which solutions to take), uncertainty resulting in postponed action ("is Climate Change really a serious and urgent problem, or is there something in what the sceptics are saying?"), optimism bias ("tendency to think that environmental problems couldn't really be that bad, or that surely someone will come up with a silver bullet solution just in time"), and temporal and spatial discounting, when people presume environmental problems are going to be worse in the future and in other parts of the planet, and so are less likely to be motivated to take action now.

ii. Other People

According to (Gifford, 2011, 199-212)[9] the next barrier is *"Other People"*. Whilst we might think the media has a huge impact on our behaviour, it's actually other people who have the greatest impact. People routinely look to others' behaviour in choosing their own actions. Since we have a tendency to compare ourselves, and to alter our behaviour to fit the norm, other people can also inspire us to adopt more climate-friendly behaviour when we observe them taking action. The more we see being green as "normal'", the more we want to be green, too. Colleagues who cycle to work and meet

[9] Read the full paper at;
http://www.researchgate.net/profile/Robert_Gifford3/publication/254734365_The_Dragons_of_Inaction_Psychological_Barriers_That_Limit_Climate_Change_Mitigation_and_Adaptation/links/0c96052047aaad383e000000.pdf

by videoconference, friends who grow their own food and take bike holidays, neighbours who have solar panels or water tanks, family members who purchase ethical investments, children who walk or ride to school, community leaders who use public transport – all encourage us to see pro-environmental behaviour as normal and desirable.

iii. Perceived Risks

The third dragon (Gifford, 2011, 199-212) describes is *"Perceived Risks".* People are usually risk-averse, and a person may feel threatened by many different types of risks. So for example, if you are considering to purchasing an electric car, you would weigh up financial costs, physical risks (will it be safe?), social costs (what will people think of me?), time (will I be taking a lot longer to get to places?), functional risks (will it fit the whole family as well as our luggage?), and even psychological costs.

iv. Sunk Costs

The next type of psychological barrier is *"Sunk Costs"*. These are the prior investments we have made, that we often find difficult to give up. They could be well established habits, like long hot showers, that are hard to forgo. They could be significant financial investments, like a luxury car that's sitting in the garage and because it's there it seems a shame not to use it. But perhaps the most compelling sunk cost, and the one that trips us up most, is that of conflicting goals and aspirations – the important things in our life that we've invested so much meaning in.

v. Ideology

Next, Gifford (2011, 199-212) describes barriers to change that arise from having a particular *"Ideology"* or way of thinking about the world, which can limit our preparedness to adopt pro-environmental behaviours. We may defend our specific worldview or way of living because it's comfortable and we resist change. Our beliefs in

particular ideologies like ‘techno-salvation’, or supra-human powers like ‘mother nature’ or God, may convince us that we are protected from ultimate climate disaster, thus minimising the need to change our own behaviour.

vi. Discredence

“Discredence” was the next sub-set of dragons, which explained a general sense of unbelieving. Here he included things like denial, mistrust (of science, of politicians, of the adequacy of a new climate-friendly project etc.) and reactance (“you can’t make me do it”).

vii. Limited Behaviour

Gifford (2011, 199-212) described barriers that come from *“Limited Behaviour”* – the idea that we limit the effectiveness of our behaviour in a variety of curious ways. We might choose less effective pro-environmental actions because they are easier or cheaper to change, or more noticeable, but the gains we make in reducing carbon emissions might be negligible. These efforts then become tokenistic, and create further problems if we think we’ve done our bit for the environment, and are now off the responsibility for any further action. Another example of limited behaviour is the rebound effect, where it is commonly found that after making some savings in emissions in one area, we often erase the gains by using the savings to treat ourselves on an even higher carbon emitting product or activity.

Finally, he concludes that, “As in other behaviour domains that were strongly resistant to behaviour change, such as smoking and the use of safety belts, the dragons of inaction can be overcome, although the effort will take time and will never be complete. However, through a combination of appropriately targeted messages, effective leadership, improved technical knowledge, equitable policies, enabling

infrastructure, the development of norms, the setting of reasonable goals, in-your-face feedback, the spreading of social norms through social networks, and appropriate personal rewards, it will be done. These steps must be taken expeditiously; we may not have the four or five decades that it has taken to get most people to stop smoking and wear a safety belts to ease our profligate spewing of greenhouse gases, to manage the blow it will already have caused, and prevent even stronger blows”[10].

[10] Gifford, 2011, Psychological Barriers That Limit Climate Change Mitigation and Adaptation, 290-302

3.4. Origins of the Modern Detrimental Environmental Behaviour

In a widely reprinted and enormously influential article published in *Science,* "The Historical Roots of Our Ecologic Crisis" (1967), Lynn White, Jr. set the agenda for future environmental ethicists. His fundamental assumption, that what we do collectively depend on what we collectively think; and the corollary to this, that to change what we collectively do depends on changing what we collectively think, led us to the conclusion that if we are to change what we do to the environment, we must begin by changing what we think about the environment. White himself argued that what westerners collectively think about the environment is ultimately derived from a few verses in Genesis (1:26, 28): "*human beings alone among creatures are formed in the image of God, have dominion over nature, and are commanded to subdue it"*. White's specifically links the biblical roots to the modern environmental crisis (White, Lynn. 1967, 1203-1207).

Different philosophers have given quite different answers to this fundamental question which has led to the emergence of two different polarities in the environmental movement. The majority of the environmentalism with natural sciences is taking the *Anthropocentrists proposition*. The present Climate Change protocols and environmental agendas are all centred on *Anthropocentrists views* (mankind is in the centre of nature view). But on the other extreme ecocentric and biocentric environmental philosophers believe that "*Our ecological crisis is the inevitable outcome of the modern economy's insensitivity to the vulnerability and limits of nature, the mad power struggle of modern politics, modern people's universally equating happiness with material satisfaction, and their overwhelming acceptance of a mechanical and dualist view of nature"* (Judi Bari*, 1995, 22-25)*.

3.5. Explanation of the Hypothesis[11]

I do agree with the research findings of Professor Dr. Robert Gifford that we humans have psychological barriers to environmental actions, but I completely disagree with the notion that proposes, that we can treat this deep anti-environmental social pathology with a simple approach of psychotherapy. I believe that the *anthropocentrists proposition* to our modern civilization, is the biggest detrimental ideology of the present environmental movement. As long as we are not open to also consider the *nonanthropocentric* view of the environment we will not find sustainable solutions to the environmental problem. I do not agree neither to *nonanthropocentric* nor *anthropocentric* because I think these two extreme views are harmful in ther application and practice for humanity and ecology. I believe in a middle way[12].

As many believe, the environmental crisis is not simply an issue of technology. It is neither because our technology cannot provide enough resources for us to consume nor because we cannot invent more advanced technology to refine the toxic wastes we produce, that environmental problems arise. The essence of the modern environmental crisis is about modern civilization and its underlying values (Judi Bari*, 1995, 22-25)*.

I hypothesize that the present “selfish egotistic human lifestyle” is moved by four kinds of detrimental ideologies. They are 1. Detrimental ideology of capitalist influenced economic development 2. Detrimental ideology of human cantered decision making 3. Detrimental ideology of non-renewable energy consumption, and 4. Detrimental ideologies of what true happiness and wellbeing is.

---

[11] In chapter one I hypothesised about four detrimental ideologies as the root cause of the environmental crisis.

[12] Read chapter 8

i. Detrimental ideology of capitalist influenced economic development

I also believe, as some other Climate Change researchers and environmental activists, that the main root cause of the climate emergency is *capitalism*, a global economic system that systematically exploits human beings and the natural environment. Environmental destruction is inherent to capitalism because it thrives only on “profit-making” and “continued economic expansion”. Unable to jump off its treadmill of production and consumption, the system must continue to generate ever higher levels of waste and consumption, even though this threatens life on the planet in the long run.

Pollution is not an inevitable by-product of modern industry. Methods exist or can readily be developed to safely neutralize, recycle or contain most industrial wastes. Less polluting forms of transportation and energy can be built. Adequate supplies of food can be grown without deadly pesticides. The problem is that, under capitalism, the majority of people have no power to make these kinds of decisions about production. Under the capitalist system, production decisions are made by the small, wealthy minority that owns and controls the industries and services - the capitalist class. And the capitalists who make up that class make their decisions to serve, first and foremost, one goal - that of maximizing profit for themselves. That is where the environmental crisis begins. From the capitalist point of view, it is generally less costly to dump pollutants into the environment than to invest in pollution-control equipment or pollution-free processes. It is more profitable to continue energy production as it is, rather than invest more heavily in solar, wind or other alternative energy sources. Likewise with every other aspect of the environmental crisis: Socially harmful decisions are made because, in one way or another, they serve the profit interests of the capitalist class.

Today there are many international development organizations, mainly from the global North, funded by the capitalist economies, implementing various projects to benefit the environment and people throughout the global South. But, in my view, the present environmental problems are the result of years of struggling to achieve the detrimental capitalist false ideology of "unlimited economic growth for everyone and while at the same time conserving the nature and rescuing the planet from Climate Change." The problem lies in the way some of these organizations frame environmental problems. "The environment" is merely "a thing" out there, which we use for our living, and with technology we can try to make it a comfortable commodity for our consumption. Today's environmental vision aims for *both,* environmental sustainability (preserving some wilderness, reducing greenhouse gasses, etc.) *and* human flourishing within that environment (e.g., producing good jobs, fuelling a sustainable economy, etc.). To accomplish this *mythical false ideology* the environmentalists need to tap into the creative worlds of myth-making, and selling false ideologies to the people. In order to change our vision effectively one needs to step out of the present mainstream environmentalism and rethink from an alternative perspective. The capitalist class and its government and their environmental organizations will never be able to solve the environmental crisis. They and their system are the problem. It is up to the working class, the majority of people who actually produce society's goods and services and daily operate its industries, to end this crisis.

ii. Detrimental ideology of human cantered decision making

In the widely reprinted published article in *Science,* "The Historical Roots of Our Ecologic Crisis" (1967), Lynn White, Jr. says the beginning of the present environmental crisis is propagation of a misinterpreted biblical verse (Genesis (1:26, 28): "*human beings alone among creatures are formed in the image of God, have dominion over*

nature, and are commanded to subdue it".) by the catholic Church (White, 1967, 1203-1207). His further analysis of this point included three major points. First, White believed that one had to identify and criticise the inherited attitudes and values regarding the characteristics of nature, human nature, and the relationship between humanity and nature that underlie our behaviour toward the natural world. He shows such behaviour was formed not only from the biblical sources, but also due to many western sources expounding such values, and it is perhaps less important than other historical sources such as Greek philosophy, the Enlightenment, modern science, capitalism, consumerism, and patriarchy. Second, White believed that one needed to reinterpret or revise one's inherited attitudes and values regarding the traits of nature, human nature, and the human-nature relationship. Third, White believed that one must develop and defend a new environmental ethic in order to guide and restrain anthropocentric environmental degradation.

Because during this time a scholarly discussion in environmental ethics developed, a major theoretical debate between anthropocentrism and nonanthropocentrism became apparent in the late 20th century. Anthropocentrists upheld the conservative western view that only human beings are morally significant. *Nonanthropocentrists* believed that human centred view is inadequate and the rest of the species are equally important. So the field of environmental studies divided into two groups with two ethics. The *Environmental Ethics Movement (EEM)* which is composed again with many versions of the *nonanthropocentrists views,* is the only mainstream western academic field of study that accepts the *nonanthropocentrism* as a global work ethic. In chapter 7 this topic is further discussed.

iii. Detrimental ideology of non-renewable energy consumption

As we all know global warming is a result of the build-up of greenhouse gasses produced from our activities for transportation, industrial production, intensive agriculture, and tropical deforestation. Scientists inform us that our atmosphere already contains about 25% more carbon dioxide than it has done for at least 160,000 years and it continues to build up. More than 80% of the carbon dioxide emission is due to burning fossil energy. Therefore it is not a big puzzle to find out why the present climate and environmental protection does not take effect as we expect it to. The modern, commercial agricultural miracle that feeds all of us, and much of the rest of the world, is completely dependent on the flow, processing and distribution of oil, and technology is critical to maintaining that flow. In the industrial age oil industry has become not only the power behind the world's fuel market, but also the power behind the governments and their decisions.

Their ideologies have the power to control the direction the world is moving towards. It may be bold to make such a statement, but it is not just a laymen's statement. If one were to follow the world's wealth and money chain, the powers working behind the world's rich nations will be easily discovered. The detrimental ideologies for development are strongly determined by the ideologies of the major governing bodies of the world. It may be difficult to believe that the world development is under the influence of ideologies of a hand full of people, but when we look at the structure of wealth and power distribution, it is easy to understand that the pyramid effect of a small group of people can create the world environment and the society.

iv. Detrimental ideologies of what true happiness and wellbeing is

The root cause of Climate Change, in reality is not oil companies, not capitalism, nor anthropocentrism, but detrimental ideologies about our own human consciousness.

At the end of the day, all humans want is to find physical and mental happiness. But they try to find it through greed, hatred and exploitation. Even though we are very much focused externally on disasters and global Climate Change, if one were simply to look back 100 years, one could see how humans have behaviourally changed so much that the rate of psychological conflicts, unrest, stress, violence and mental illnesses has also dramatically increased like the global temperature itself. The outer signs of our ecological crisis are only too visible in the pollution of our waters, the dying of species, the change in our climate. The inner changes are less understood; particularly as western culture has for centuries dismissed the inner worlds, claiming that only the physical world is real. It is in the inner world of the human soul that meaning comes into our lives. And here in the inner world there is a crisis as dangerous as what is happening in the physical world. Our collective pursuit of materialism and our disregard for the sacred within all of life has had a devastating effect. We have dismissed our ancient role as guardians of the planet. As a result, the sacredness that we were supposed to keep burning in our hearts, the light of the sacred that nourishes all of creation, is slowly going out.

We can see this in a culture that is increasingly soulless and fractured. We may feel it in an underlying collective anxiety that can easily become anger, projected onto outer situations. We may sense it within our own souls as if something is becoming lost. And we are responsible. We need to recognize this growing darkness which is a forgetfulness of the sacred within our own souls and within all of creation. Only when we are aware of what is happening we can begin to change our world. Indigenous people and many world religions have warned about this present danger.

3.6. An Alternative Plan of Action

As the plan of first aid to the climate problem, I suggest reviving the relationship our human society has with the natural society (ecology). Because information alone can make people change their ways of life. Therefore world religions should start focusing their preaching on altruism, compassion, loving kindness, and generosity, equality towards nature and all sentient beings. This emotional education will supplement the intellectual environmental knowledge science is providing us.

At the same time the Environmental Ethics Movement (EEM) takes great weight on its shoulders to mediate this intervention. Because EEM is an established western academic field of study, therefore it would be a strong foundation for a link between the academic scientific community and the spiritual religious community. Uniting the EEM movement with the Climate Change community would be a good start[13].

Then, I suggest integrating pro-environmental ethics into school and university education systems, so that future generations have better behaviour and attitudes towards nature, and so that intellectual education, emotional education and spiritual education go hand in hand[14].

Lastly, I suggest exploring in depth all world religions for utopian environmental wisdom. And reformulate and interpret them correctly without loosing the Utopian essence of knowledge. The theories of Sociology of Knowledge could be helpful for the *"harvesting of utopian knowledge."*

[13] See chapter 7
[14] See case studies in chapter 9 and 10

4. EXPLORING TRADITIONAL KNOWLEDGE

"We know that the white man does not understand our ways. One portion of land is the same to him as the next, for he is a stranger who comes in the night and takes from the land whatever he needs. The Earth is not his brother, but his enemy, and when he has conquered it, he moves on. He leaves his father's graves and his children's birthright is forgotten. The sight of your cities pains the eyes of the redman. But perhaps it is because the redman is a savage and does not understand."

- Native American Chief Seattle of the Duwamish Tribe

4.1. Understanding Traditional Knowledge Systems

The terms 'indigenous, traditional or local knowledge' make reference to knowledge and know-how accumulated across generations, which guide human societies in their innumerable interactions with their surrounding environment. Berkes F. (1993) defines such traditional ecological knowledge as: "A cumulative body of knowledge, practice, and belief, evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment" (Berkes 2000, 1251-1262). These knowledge systems are transmitted and renewed by each succeeding generation, and ensure the well-being of people around the globe by providing food security from hunting, fishing, gathering, pastoralism or small-scale agriculture, as well as healthcare, clothing, shelter and strategies for coping with environmental fluctuations and external forces of change.

The Director General of the United Nations Educational, Scientific and Cultural Organization (Mayor, 1994) defines traditional knowledge as follows:

> *The indigenous people of the world possess an immense knowledge of their environments, based on centuries of living close to nature. Living in and from the richness and variety of complex ecosystems, they have an understanding of the properties of plants and animals, the functioning of ecosystems and the techniques for using and managing them that is particular and often detailed. In rural communities in developing countries, locally occurring species are relied on for many - sometimes all - foods, medicines, fuel, building materials and other products. Equally, people's knowledge and perceptions of the environment, and their relationships with it, are often important elements of cultural identity.*

This definition points out some central features and characteristics of traditional knowledge which are explained in the following:

- it is strongly bound to its respective context and is deeply rooted in the society;
- it provides the base for agriculture, food processing, activities to conserve the environment, health, etc.;
- it is passed down orally over generations;
- it is subject to an inherent dynamic resulting from the adaption of knowledge to the steadily changing social, ecological and economic conditions of the society (Maffi 2002).

Today the ancient religious-philosophical knowledge and indigenous ecological knowledge both have been termed as Traditional Knowledge (TK) or Indigenous Knowledge (IK). The Scientific Knowledge (SK) which has a logical, mathematical, absolutist and a positivist approach has been emphasized by the mainstream academia

and their institutions as a true source of knowledge, while the rest of the knowledge systems are marginalized as not reliable. It is important to distinguish between learned information and acquired knowledge. Former is mere theatrical and abstract and the latter is more practical and realistic.

Cultures from all over the world have developed different views of nature throughout human history. Many of them are rooted in traditional systems of beliefs, which indigenous people use to understand and interpret their biophysical environment (Alcorn 1993, 424-426). These systems of managing the environment constitute an integral part of the cultural identity and social integrity of many indigenous populations. At the same time, their knowledge embodies a wealth of wisdom and experience of nature gained over millennia from direct observations, and transmitted - most often orally - over generations.

Traditional knowledge has developed a concept of the environment that emphasizes the symbiotic character of humans and nature. It offers an approach to local development that is based on co-evolution with the environment, and on respecting the carrying capacity of ecosystems. This knowledge - based on long-term empirical observations adapted to local conditions - ensures a sound use and control of the environment, and enables indigenous people to adapt to environmental changes. Moreover, it supplies much of the world's population with the principal means to fulfil their basic needs, and forms the basis for decisions and strategies in many practical aspects, including interpretation of meteorological phenomena, medical treatment, water management, production of clothing, navigation, agriculture and husbandry, hunting and fishing, and biological classification systems (Nakashima & Roué, 2002, 314–324). Beyond its obvious benefit for the people who rely on this knowledge, it might provide humanity as a whole with new biological and ecological insights; it has potential

value for the management of natural resources, and might be useful in conservation education as well as in development planning and environmental assessment.

Some authors (Freeman, 1992, 07-12; Iaccarino, 2003, 220–223) have suggested that traditional knowledge systems can be helpful in dealing with complex systems: “The understanding of complex systems remains a major challenge for the future, and no scientist today can claim that we have at hand the appropriate methods with which to achieve this. Thus, we cannot discuss the future of science without taking into account the philosophical problems generated by the study of complexity. Modern or western science may not be best suited to fulfil this task, as its view of the world is too constrained by its characteristic empirical and analytical approach that, in the past, made it so successful. We should therefore remember the contributions of other civilizations to the understanding of nature. […] Such traditional or indigenous knowledge is now increasingly being used not only with the aim of finding new drugs, but also to derive new concepts that may help us to reconcile empiricism and science” (Iaccarino, 2003, 220–223).

4.2. Western Sciences vs. Traditional Knowledge

Scientific knowledge has long held a central role and attained a dominant position in our developed societies, but we cannot ignore the fact that other valid knowledge systems exist. The imposition of western scientific ideas and methods not only causes disruption to existing social and economic relationships, but also might spoil the local knowledge. Allowing science to be the final arbiter of the validity of knowledge, and to establish the threshold beyond which knowledge is not worthy of its name, would create the conditions whereby an astonishing cultural heritage is transformed into a monolithic structure. Instead, we would be better advised to recognize the value of this heritage, and to devise strategies for its preservation for the benefit of present and future generations.

In all cultures, humans have gained knowledge by conceptualizing empirical observations to better understand nature, and thus interpret and predict it (Iaccarino, 2003, 220–223). The problem is how to study and analyse indigenous knowledge and belief systems. Of course, we cannot depend only on their empirical aspects, but must embrace their specific worldviews. It is not possible to simply reduce them to practical knowledge that is exclusively based on experience as opposed to theoretical knowledge, which is developed through deductive or inductive reasoning. In any case, discovering the fundamental principles of dealing with nature in many far-off cultures is not an easy task. Western science - which is deeply rooted both in the philosophy of ancient Greece and the Renaissance - and traditional knowledge systems have developed radically different strategies to create and transmit knowledge, and it is exceedingly difficult to analyse one form of knowledge using the criteria of another tradition.

Still, there is a vast body of literature on such comparisons between western science and traditional knowledge systems, which has identified various characteristics and opposing views. Western science favours analytical and reductionist methods as opposed to the more intuitive and holistic view often found in traditional knowledge. Western science is positivist and materialist in contrast to traditional knowledge, which is spiritual and does not make distinctions between empirical and sacred (Nakashima & Roué, 2002, 314–324). Western science is objective and quantitative as opposed to traditional knowledge, which is mainly subjective and qualitative. Western science is based on an academic and literate transmission, while traditional knowledge is often passed on orally from one generation to the next by the elders. Western science isolates its objects of study from their vital context by putting them in simplified and controllable experimental environments - which also means that scientists separate themselves from nature, the object of their studies; by contrast, traditional knowledge always depends on its context and particular local conditions (Nakashima & Roué, 2002, 314–324).

In general, traditional knowledge systems adopt a more holistic approach, and do not separate observations into different disciplines as does western science (Iaccarino, 2003). Moreover, traditional knowledge systems do not interpret reality on the basis of a linear conception of cause and effect, but rather as a world made up of constantly forming multidimensional cycles in which all elements are part of an entangled and complex web of interactions (Freeman, 1992, 7-12). Of course, there is always the risk of oversimplifying by reducing the things of interest to essentials and/or dichotomies. However, from this brief overview of the dissimilarities, we can gain an understanding of how hard it is to compare two systems of knowledge that are so profoundly different. Trying to analyse and validate traditional knowledge systems by using external

(scientific) criteria carries the risk of distorting such systems in the process. At the same time, we cannot extract just those parts of traditional knowledge that seem to measure up to scientific criteria and ignore the rest. This process of cognitive mining would atomize the overall system and threaten traditional knowledge with dispossession (Nakashima & Roué, 2002, 314–324).

4.3. The History of Suppression of Knowledge

According to historical records, the suppression of indigenous knowledge started in Europe during the medieval times when the older pagan based nature religions in Europe were banned from practice by the Catholic Church. The Church condemned the healers and believers of these pagan nature religions as witches, therefore the famous witch burning trials took place in catholic countries during that time.

The second step in the suppression started with colonialism. The European colonialist with their various religious missionaries took over many of the traditional communities of the world. Then they told these people that their culture believed in superstition and knowledge which they believed was false and non-existent. The presumption in this alone is self-evident. These missionaries then were solely responsible for suppressing this knowledge among the people and wherever possible they used force, threatened and killed where there was resistance. History gives proof of this. The methods they used in suppressing this knowledge, however, showed that it was not love for the people that made them behave in this way, nor was it the fear that perhaps the people were going astray. It was nothing but the desire to dominate and control that guided these missionaries' actions.

When the colonialists left, they left the people with no self-identity and foundation whatsoever since the native knowledge that should have been this foundation was removed. Through this, a dangerous imbalance was created in people's lives. They removed all trust. They also removed the basis for the further expansion of native knowledge. The missionaries therefore, instead of becoming agents for progress, became agents of retrogression. Over the succeeding generations it thereby happened

that local indigenous knowledge became completely lost because the knowledge holders lost their self-identity and it could no longer be taught in an organized way.

It is not a secret that before the European colonization, these lands flourished independently with their own wealth, technologies and sciences (for example Mayans, Egyptians, Indians, Africans). After the arrival of the missionaries the western education systems were introduced to replace the traditional education systems, their wealth was robbed, man power used for slavery, and knowledge was suppressed.

Due to the loss of the main means of traditional knowledge dissemination (traditional education methods), the death of traditional knowledge rapidly took place generation after generation. The trend towards a global culture might even worsen this situation and enhance a process of cultural homogenization. As much as it was the colonial agenda, it is also taking place as a post colonial agenda in this time. Today the standard education models, developmental models and socio-economic models are all defined by the knowledge holders of the global north.

Organised religious politics did mankind a great injustice when it suppressed just that which mankind needed and still needs for its advancement. It is really a great pity. Out of fear and also out of wanting to dominate and control, they removed the very foundation of human existence. Traditional environmental knowledge is an important part of humankind's cultural heritage - the result of countless civilizations and traditions that have emerged over human history. This cultural diversity is as important for our future as is biodiversity. It is a potential source of creativity and enrichment embodied in several social and cultural identities, each of which expresses its uniqueness (United Nations Educational, Scientific and Cultural Organization, 2002, 1016–1020).

4.4. Traditional Religious Knowledge

Another aspect of traditional knowledge is religious knowledge. Ancient religious knowledge sources have a diverse knowledge structure. In the next chapter I will discuss bout the scope of religious knowledge in detail. Traditional religious knowledge belongs to indigenous cultures and past ancient civilizations of the world, for example: Egypt, Persian, Incan, Aztec, American Indian or Chinese. Philosophical, alchemical and metaphysical aspects of the ancient religions are inseparable from classical religious knowledge aspects. Most traditional religions have non-abrahmic origins. Due to this very reason old Germanic Norse religions of Europe were eradicate as evil practices, when the Roman Empire started spreading the Catholicism. Similar eradications and suppressions happened in Asia, America and Africa during the colonial times. Ancient religions provided not only emotional and spiritual support for the community, but also other sources of knowledge for the progression of the civilization. One can witness this in the archaeological findings in Egypt, India and China.

Clearly, religions need to be involved in the development of a more comprehensive worldview and ethics to ground movements toward sustainability. Scholars of religion as well as religious leaders, and laity can be key players in this articulation process. Despite these historical and cultural contingencies, there are particular religious attitudes and practices as well as common ethical values that can be identified to broaden and deepen environmental perspectives. This is the actual and potential contribution of religious ideas for improving and inspiring ecological theology, environmental ethics, and grassroots activism. Religions are now reclaiming and reconstructing these powerful religious attitudes, practices, and values toward re-conceiving mutually enhancing human-earth relations.

Today there is a global dialogue about global warming due to greenhouse gases and the climate has been changing drastically during the past decade. There is an ongoing debate among climate research communities and disaster risk reduction communicates about what should be the path of action and mitigation. The role of religious environmental knowledge sources in Climate Change is less known and marginally discussed. I find, religious knowledge of some ancient religions hold very important environmental and social ethics that would help the present lack of ethics. The ancient worlds fascinate most people.

The very term ‘religion’ is an example of the imposition of a modern western label on the ancient worlds. Many cultures, such as those of Greece, the Aztecs and the Incas, have no single-word equivalent to ‘religion’ (Barbour 1973). The perception of religion as a matter of private personal belief is a particularly modern, western and a rather protestant idea. Some ancient cultures did have complex ‘theologies’, but in others ‘religion’ is more a matter of duty, either to the elders or to the (ultimate) powers, a matter of practice, not of doctrine, a matter of civic and social obligations. But ‘religion’ is a convenient term, provided it is not taken too narrowly, to look at the ancient worlds’ perceptions of their places in the order of things, in understanding their duties, aspirations, fears and the remarkably widespread belief in a life after death.

One must not be a Buddhist or a Native American to understand the universal truth behind religious knowledge. Today most policy makers make policies that have environmental implications, because decision-makers are often ignorant of or unable to deal with the ethical elements of their decisions. Policies involving prevention and control of pollution, or preservation and restoration of natural areas, are evaluated in terms of economic and political gains for the major nations (i.e. Kyoto Protocol).

The majority of the world’s religious knowledge teaches us:

i. Inner life reflects the outer life

First we should be completely convinced that the present environmental crisis is not simply an issue of technology and outer disasters. It is neither because our technology cannot provide enough resources for us to consume, nor because we cannot invent more advanced technologies to refine the toxic wastes we produce that environmental problems arise. The essence of the modern environmental crisis is about modern civilization and its underlying values. Our ecological crisis is the inevitable outcome of the modern economy's insensitivity to the vulnerability and limits of nature, the mad power struggle of modern politics, modern people universally equating happiness with material satisfaction, and their overwhelming acceptance of a mechanical and dualist view of nature. It is not this or that part of industrial civilization but industrial civilization itself that is not suitable for this small planet.

We must oversee such false ideologies which define the modern thinking, such as*: "Immeasurable economic growth to all*" and *"Science and technology have the answer to everything"*. The sole purpose of religions is to help humans to discover their true inner potential and virtues. Lately, religious leaders have been neglecting their sole responsibility towards humanity and the divine. Abrahamic religions such as Christianity and Islam must stop working for their own interests and promoting segregation among humans.

ii. Create equality among people and animals

Secondly, religions teach us, we must, for a moment, remember that the Earth belongs to all people and all creatures. No country or group is permitted to threaten the ecological balance. Human beings' common interests come before any state's special interests. To protect our common Earth, developing countries should maintain the necessary balance between economic growth and environmental protection, and

developed countries have a duty to reduce the amount of energy and resources they consume. We need to distribute global wealth more equally among nations and to establish a more just international order that is compatible with global environmental protection. Human beings need to learn how to live as a global commonwealth on Earth. The resources we enjoy are a long term result of living and non-living natural forces working together in harmony. Human beings cannot deny the essential role the rest of the ecological world has played in order to ensure their survival; therefore we human beings should play an equal role to ensure the survival of the natural world. The false ideology that a human being is superior to the rest of the ecology is a misleading factor that has distorted human behaviour until now. It must be changed! Indigenous and other non-Abrahamic religions already hold this ethic, but they have to be more active in sharing these ideologies with the western world.

iii. Creating peace through compassion

Thirdly, all world religions more or less try to teach that active compassion is quite different from passive compassion. War is destructive to human life, non-human life and the environment. Nuclear war will be the end of all life on Earth. The massive destruction of the environment caused by military actions across the world is the hardest to heal. The military industry is among the most heavily polluting industries. The arms race not only wastes Earth's limited resources, but also leads to a lack of trust among nations. Some countries have annual military budgets of more than 40 billion US dollars, while to save the tropics, where 70 per cent of non-human species live, would require only 30 billion US dollars (Wilson, 2002). Religions can teach people to live with love, compassion and respect for each other. People need to respect the values of each other, and cherish the happiness of others, as one cherishes one's own happiness. World religions can engage more actively at this present time to create this difference in people's hearts.

iv. Creating generosity among each other

Fourthly, religions teach us that poverty remains a key factor in environmental deterioration, and social deterioration. Poor countries often engage in rapid economic growth in ways that harm their environments. They are obliged to export their natural capital cheaply and excessively in exchange for foreign currency with which they can pay their debts. They are not able to obtain environmental-protection technologies and they lack the financial budget that environmental protection requires. The lowest-income people, especially those living in cities, are exposed to toxic wastes and hazardous chemicals. They have to work in heavily polluted conditions. They are the most vulnerable in the face of environmental catastrophes. In addition, the huge gap between the rich and the poor is incompatible with human morality. Therefore, we must incorporate poverty alleviation into environmental protection and economic development. We need to break the vicious circle of poverty and environmental destruction. The root of poverty may be stemming from the colonial times, during which wealth exploitation from non-European countries took place extensively. Years after colonialism, those colonialists left the poor countries, leaving behind an unstable economic atmosphere. Religious traditions can create wealth equality among the world population. Religions can teach nations to create empathy and compassion towards suffering nations, therefore encouraging generosity motivated by empathy.

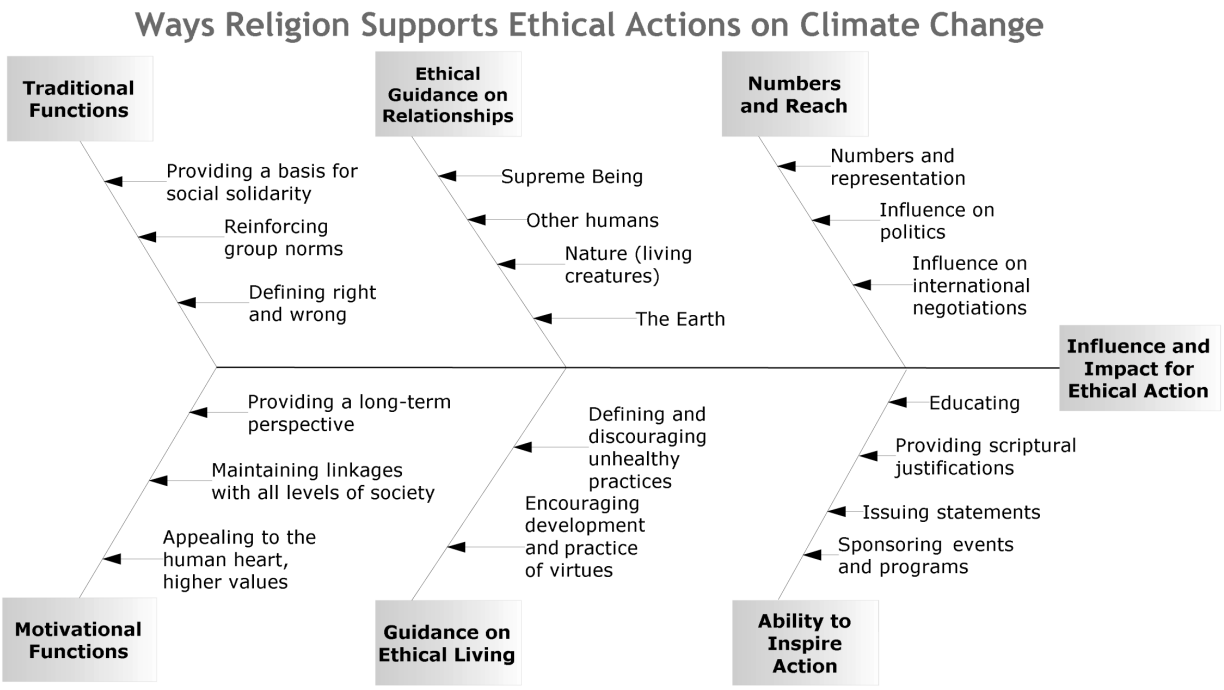


Figure 2: Various possible roles of religion.

5. THE KNOWLEDGE OF RELIGIONS

"However many holy words you read, however many you speak, what good will they do you if you do not act on upon them?"

- The Buddha (563- 483 BC)

5.1. The Classical Role of Religion

Victor Hugo once wrote "Religion, society, nature: these are the three struggles of man. These three conflicts are, at the same time, his three needs." The literature and history of countries around the world seem to provide plenty of evidence to back up Hugo's words. The variety and number of religious organizations and beliefs around the world are so large that we have a difficult time arriving at a single definition of religion and its role. In western societies, people usually identify religion with Christianity: the belief in Jesus Christ as the son of God who promised salvation through faith and life after death. Yet, religion as a global phenomenon presents a much more complex picture, because most of the world's religions lack the core concepts of Christianity (Hessel Dieter, 2000, 05). To avoid thinking about religion from a culturally biased point of view, I would first like to define what religion necessarily is *not*.

- First, religion is not necessarily **monotheistic**, which is the belief in monotheism, or a single deity. Instead, many religions embrace **polytheism**, or the belief in multiple deities. Still other religions, such as Confucianism, recognize no gods at all.
- Religion is not necessarily a body of moral rules and demands concerning the behaviour of believers. The notion that deities somehow keep track of how believers behave is foreign to many religions.

- Religion is not necessarily a belief in the supernatural, heaven, hell, or even life after death. Confucianism, again as an example, emphasizes acceptance of the natural harmony of the world, not finding truths that lie beyond it.
- Finally, religion is not necessarily an explanation of the origins of creation. The Christian story of Adam and Eve explains the origins of humanity. Many religions, but not all, have similar myths of origin.

We can generally define religion as a codified set of moral beliefs concerning sacred things and rules governing the behaviour of believers who form a spiritual community. All religions share at least some characteristics. Religions use symbols, invoke feelings of awe and reverence, and prescribe rituals for their adherents to practice. Religion has numerous rituals and ceremonies, which may include lighting candles, holding processions, kneeling, praying, singing hymns and psalms, chanting, listening to sacred readings, eating certain foods, fasting from other foods on special days, and so forth. These rituals, because of their religious nature, may differ quite a bit from the procedures of ordinary daily life (Schmitz 1989, 33-54). Religious individuals may practice their rituals and ceremonies alone, at home, or within special spaces: shrines, temples, churches, synagogues, or ceremonial grounds.

In most traditional societies, religion plays a central role in cultural life. People often synthesize religious symbols and rituals into the material and artistic culture of the society: literature, storytelling, painting, music, and dance. The individual culture also determines the understanding of *priesthood*. A priest offers sacrifices to a deity or deities on behalf of the people. In smaller hunting-and-gathering societies no priesthood exists, although certain individuals specialize in religious (or metaphysical) knowledge. One such specialist is the shaman, who the people believe controls supernatural forces.

The ultimate meaning of following a religion is finding sense of direction in life and grounding oneself in the rhythm of the universe (Schmitz 1989, 33-54).

5.2. Religion and Ethics of the Society

It is true that religious believes can provide mental and emotional salvage to humanity at suffering in the midst of natural catastrophes, such as an earthquake in Haiti, or a tsunami in Japan, or a hurricane in the United States. Major religions, including indigenous beliefs, provide also moral and ethical guidance for correct relationships amongst communities and between people and nature. Religions can influence individual's attitudes and behaviour, which can then lead to societal transformation. Can religion also play a role in social resilience to disasters?

On 11 March 2011, the largest earthquake in Japan's recorded history hit the north-eastern Tohoku region, causing a devastating tsunami and widespread destruction. The intense seismic activity in and around Japan is well-known, and extensive steps had been taken to mitigate this vulnerability. The sheer scale of the disaster, however, overwhelmed many of the infrastructural defences, washing away whole communities and leaving thousands homeless. Yet, not a single life was lost even though many of the island's residents were elderly, because everyone knows each other so well and the community worked together to evacuate in a timely manner. In the days and weeks that followed a growing number of heroic stories began to emerge from the region, stories of order in the face of chaos, compassion in the face of devastation, generosity in the face of loss. In short, the infrastructure was broken, ecosystems had been devastated, but the sense of community had remained intact. But what exactly is it that made Japanese communities so resilient in the face of these unprecedented disasters? Take for example, the aftermath of hurricane Katrina in New Orleans after the levees broke and a considerable portion of the city was submerged. According to some reports, one-third of the New Orleans police force left town and did not report for duty as the disaster struck. Widespread looting broke out across the city, extrajudicial

shootings occurred and in the end the National Guard was deployed to bring order back to the city. In both Japan's Tohoku region and New Orleans, well-prepared defences were overwhelmed by natural disasters. But in one case community resilience triumphed, while in the other it seems to have largely collapsed. Does this example prove that resilience is something beyond economical, technological and political power? Does it prove that resilience is more related to human emotions and human spirit than mere intellectual and technical understandings? (Tellenbach et al 1992, 152-163).

5.3. The Sociology of Religions

When studying world religions it is important to study the theories of sociologists like Karl Marx, Max Weber, and Émile Durkheim. They were the forefathers of the sociology of religion (Gerth and Mills, 1946). The theories on 'Sociological Aspects of Religion' by Max Weber is especially relevant to this study on the role of religions on environmental ethics for climate resilience.

5.4. Durkheim's Analysis of Religion

The Elementary Forms of the Religious Life, the last major work published by Durkheim, five years before his death in 1917, is generally regarded as his best and most mature. Where *Suicide* focused on a large amount of statistics from varying sources, *The Elementary Forms* used one case study in depth, the Australian aborigines. Durkheim chose this group because he felt they represented the most basic, *elementary* forms of religion within a culture. Durkheim saw religion as a creation of the society, not of divinity.

> "If religion has given birth to all that is essential in society, it is because the idea of society is the soul of religion." (Bellah, 1973, p. 191 [excerpt from *The Elementary Forms of the Religious Life*]).
>
> "For we know today that a religion does not necessarily imply symbols and rites, properly speaking, or temples and priests. This whole exterior apparatus is only the superficial part. Essentially, it is nothing other than a body of collective beliefs and practices endowed with a certain authority." (Bellah, 1973, 51).

Durkheim set out to do two things, establish the fact that religion was **not** divinely or supernaturally inspired and was in fact a product of society, and he sought to identify

the common things that religion placed an emphasis upon, as well as what effects those religious beliefs (the product of social life) had on the lives of all within a society. Durkheim's theory was that religious representations are collective representations which express collective realities; the rites are a manner of acting which take rise in the midst of assembled groups and which are destined to excite, maintain, or recreate certain mental states in these groups. So, if the categories are of religious origin, they ought to participate in this nature common to all religious facts; they should be social affairs and the product of collective thought. At least - for in the actual condition of our knowledge of these matters, one should be careful to avoid all radical and exclusive statements - it is allowable to suppose that they are rich in social elements." (Thompson, 1982, 125).

Recognizing the social origin of religion, Durkheim argued that religion acted as a source of solidarity and identification for the individuals within a society, especially as a part of mechanical solidarity systems and to a lesser, but still important extent in the context of organic solidarity. Religion provided a meaning for life, it provided authority figures, and most importantly for Durkheim, it reinforced the morals and social norms held collectively by all within a society. Far from dismissing religion as mere fantasy, despite its natural origin, Durkheim saw it as a critical part of the social system. Religion provides social control, cohesion and purpose for people, as well as another means of communication and gathering for individuals to interact and reaffirm social norms (Thompson, 1982, 127-130).

Durkheim's second purpose was identifying certain elements of religious beliefs that are common across different cultures. A belief in a supernatural realm is not necessary or common among religions, but the separation of different aspects of life, physical things, and certain behaviours into two categories - the *sacred* and the *profane*

- is common. Objects and behaviours deemed sacred were considered part of the spiritual or religious realm. They were part of rites, objects of reverence, or simply behaviours deemed special by religious beliefs. Those things deemed profane were everything else in the world that did not have a religious function or hold religious meaning. But while these two categories are rigidly defined and set apart, they interact with one another and depend on each other for survival. The sacred world cannot survive without the profane world to support it and give it life, and vice versa.

In general, those aspects of social life, given moral superiority or reverence, are considered sacred, and all other aspects are part of the profane. For example, the Catholic Church respects the crucifix and the behaviours and actions performed during mass as sacred, while other behaviours and objects are not. While Native American societies differed greatly in the details, those religions also held certain objects and behavior sacred, such as certain animals and the rituals and rites performed by the shaman. This division of things into two separate but interacting spheres is common among all religions.”...sacred things are simply collective ideals that have fixed themselves on material objects.” (Bellah, 1973, 159).

Durkheim, concerned with social solidarity throughout his academic career, was primarily concerned with religion as a functional source of social cohesion. As said before, religion acts to pull people together (mentally *and* physically, in the form of religious services or assemblies). By doing so, religion is able to reaffirm collective morals and beliefs in the minds of all members of society. This is important, because if left to their own for a long amount of time, the beliefs and convictions of individuals will weaken in strength, and require reinforcement. Religion maintains the influence of society - whereas "society" represents the norms and beliefs held in common by a group of individuals.

"Since it is in spiritual ways that social pressure exercises itself, it could not fail to give men the idea that outside themselves there exists one or several powers, both moral and, at the same time, efficacious, upon which they depend.” (Bellah, 1973, 171).

5.5. Max Weber's Analysis of Religions

The theory of Max Weber initiated a large-scale study of religions around the globe. His principal interest was in large, global religions with millions of believers. He conducted in-depth studies of Ancient Judaism, Christianity, Hinduism, Buddhism, and Taoism. In "*The Protestant Ethic and the Spirit of Capitalism"* (1905), Weber examined the impact of Christianity on western thinking and culture. The fundamental purpose of Weber's research was to discover religion's impact on social change. For example, in *"Protestant Work Ethic"*, Weber saw the roots of capitalism, which he wrote extensively about during his research. In the eastern religions, Weber saw barriers to capitalism. For example, Hinduism stresses attaining higher levels of spirituality by escaping from the toils of the mundane physical world. Such a perspective does not easily lend itself to making and spending money (Gerth and Mills, 1946). Weber says Christianity was a *salvation religion* that claims people can be "saved" when they convert to certain beliefs and moral codes. In Christianity, the idea of "sin" and its atonement by God's grace plays a fundamental role. Unlike the eastern religions' passive approach where sins are accepted as human nature, and tasks in personal purification is taken upon as a spiritual discipline, and salvation religions like Christianity are active, demanding continuous struggles against sin and the negative aspects of society, in eastern religions salvation is personal, private, and a silent battle (Gerth and Mills, 1946). They have much deeper relevance to the topic of the thesis, and environmentalism in particular. Therefore looking at the work of Max Weber can shed light into the differentiation of sources of philosophical and metaphysical knowledge bases.

Weber's "Sociology of Religion" brings a classification with clear-cut categorisations that allow us to analyse religious behaviour (or perhaps human behaviour in general) with reference to the proposed ideal types. Those include *inner-*

worldly asceticism, other-worldly asceticism and *world-flying mysticism (*Bourdieu, Pierre. 1991, 01-12). Weber points out four general approaches to salvation. One can either escape or avoid the world or find means of adjusting and engaging in it; Weber terms the “escape” approach “other-worldly,” and adjustment as “inner-worldly.”

Weber then turns his attention to how one perceives transcendence and practice towards it. He saw that some engage in self-mastery to achieve it sooner as possible (“mysticism”) or other believe they need to preserve themselves and avoid transcendence until one’s own death (“asceticism”) in regard to transcending the world’s temptations. With regard to the attitude towards reality, for some religion religiousness may be engaged in this world’s affairs and for other religiousness based on alienation from the reality. This is clearly noticeable in the opposition between inner-worldly ascetic and other-worldly ascetic groups. The attitude towards transcendence is the main difference between asceticism **and** mysticism, or in other words, between western and eastern religions *(*Bourdieu, Pierre. 1991, 1-12).

This attitude is based on a way in which the concept of transcendence is used, which is reflected in Weber’s terminology, in the notion of ‘individual procedure of salvation’. Mysticism makes an active use of the concept of transcendence. Direct contact with transcendence ‘here and now’ is the aim of an individual’s actions through which a person can influence the reality or oneself. For instance, it is through “contemplative surrender to the All-oneness” religious ecstasy, revelation or nirvana that an individual can attain true understanding and ultimate cognition. In asceticism on the contrary, the achievement of the transcendence is postponed until natural death and possibly only as a result of the person’s earthly activities, such as mortification or martyrdom as a way to afterward salvation.

Ascetics consciously limit their encounters with transcendence directly, being wary even of not using an image or the name of God. There is a notion that only the Messiah is transcended and truly one with the God, and through him the devotees who have faith in him are saved, but devotee can never believe to be like God or one with God. Weber claimed that in case of asceticism a lack of reflection about the nature of reality is especially evident, what contradicts with mystic strive to mediate divine knowledge and reveal the sense of the world *(*Bourdieu, Pierre. 1991, 01-12). Hence, mysticism is characterised by a strategy of engagement into transcendence whereas asceticism tries to avoid it. Table 1 shows a summary of Weber's classifications.

Table 1. Max Weber, Model of Religion Typology (*Bourdieu*, *Pierre* ,*1991*)

		Worldly Affairs	
		Engagement *Inner-worldly*	**Avoidance** *Other-worldly*
Transcendence	**Avoidance** *asceticism*	Abhramic religions as Catholic, Evangelist, Islam, Bahai faith etc	Abhramic religions Christian ascetics, Judaism, Sufism and Eastern Orthodox
	Engagement *mysticism*	Shamanic and Indigenous religions as Shintoism, Bon, Boo, and Paganism.	Buddhist, Hindu, Jain, Shik, Zoroasterism, Confucianism, and Taoist religions.

5.6. Reconstructing the Original Weber Model

Inner-worldly asceticism plays a crucial role in Weber's thought and represents a point of departure for his religious typology. Weber related inner worldly ascetic religious orders are a source of capitalist views, in his essays on the spirit of capitalism and protestant ethic. "Inner-worldly asceticism is represented by some sections of Protestantism, notably Puritanism, but also by Zwinglians, Calvinists, Baptists, Mennonites, Quakers, Methodists and Pietists (both of the Reformed, and to a lesser degree, Lutheran varieties), as well as by Russian Schismatic, heretical and rational Pietistic sects, especially the Shtundists and Skoptsy." (Whimster 2004, 24-53). The religiousness of those groups comes true within "religious institutional structures of the world" and towards them. By the inner-worldly asceticism groups the world is seen as a duty to transform and salvation. Their reality is their religious dogmas and ideals of asceticism, and they strive to make the rest of the world fulfil their religious demands. Only in this way individuals can demonstrate and prove their religious status (Whimster 2004, 24-53). Associated with this type of asceticism is the notion of vocation, which is crucial in Weber's concept of the role of inner-worldly asceticism for the development of capitalism. Vocation stands for rational economic management where success indicates a blessing. Modern environmental and climate problems have a direct relation to capitalist ways of thinking by the most of the world population. This view was imposed on people from the times of colonialism and as a result of modern globalization.

Other-worldly asceticism is, according to Weber, quite opposite to the inner-worldly asceticism. Among practising it, one may find early Christian ascetics and anchorites, medieval begging orders, pilgrims and living in celibacy. Members of those categories of religious communities perceive the world as religiously worthless and, in consequence, reject it as secondary creation and as a "vessel of sin" (Gerth, Mills

1946). Due to this secluded way of living the attitude towards social life by other-worldly asceticism is that “the world is full of temptations, not only because it is the site of sensual pleasures which are ethically irrational and completely diverting from things divine, but even more because it fosters the religiously average person complacent self-sufficiency and self-righteousness in the fulfilment of common obligations, at the expense of the uniquely necessary concentration on active achievements leading to salvation.” (Whimster 2004, 24-53). These groups avoid the mainstream world, and they don’t engage in religious salvation, at the same time they avoid transcendence of humanity before their natural death.

Other-worldly mysticism, in Weber’s typology, is religiousness that is different from the inner-worldly asceticism and other-worldly asceticism in general. Religiousness is associated mostly with oriental mysticism in opposition to the dominance of asceticism in the West. Buddhism, Brahmanism (Hinduism), Daoism are mentioned in this context. According to Weber, their followers use meditation as a means to achieve a special mystic enlightenment that is perfect cognition, to which a way leads through ever higher states of consciousness. This requires a separation from everyday affairs, as in the case of “communities of contemplative, orgiastic or apathetic ecstatics in Asia” giving an outlet “for the yearning to escape from the meaninglessness of inner-worldly work.” (Whimster 2004, 24-53). Thus, a Buddhist monk focuses his actions on achievement of a state of perfection, liberating himself from the vicious cycle of the karmic birth and death - a transgression of reality (Gerth and Mills, 1946).

Inner-worldly mysticism - There is a fourth type of religion, Weber did not include in his own typology, but researched it nevertheless. This type of religiousness is a very common phenomenon, of which the best equivalent is degraded in the theology of magical thinking, which Weber himself described as the primeval form of

religiousness (Gerth and Mills, 1946). Weber associated this type mostly with Shamanic and indigenous religions such as the Bon religion in Tibet, or Shintoism in Japan or Paganism in Europe, who are primarily involved with using metaphysical knowledge of the universe for the benefit of the humanity. Weber states that they are involved in "weather magic and animistic magic or ritualism" and "manipulation of spirits" (Whimster 2004, 24-53). Through contact with transcendence, a human being is endowed with special qualities which are essential for living in the real world. Within this type of religiousness, people get actively engaged in transcendence as a tool or a subject of intervention, and in immanence (the world around us) as an object of such an intervention. A person's actions and their outcomes depend on how well that person can employ transcendent powers to serve the required purpose. In this case, mystical contact is intended towards very real outcomes in the real world, where the individual actively co-shapes reality, utilising mystic encounters and acting as intermediary between this and the other world. These religions play an active role in ancient environmentalism as well, because their knowledge is based on the metaphysics of the natural. The Shamanic religions of Asia, Paganism in Europe and Native Indigenous religions of the world are among the most vivid examples for this category. In Medieval Time the Catholic Church forbade the practice of these sources of knowledge in Europe, and practitioners were murdered publicly. The "salvation" of the *inner worldly-asceticism* type religions was to establish their own belief system over the rest of the world religions and knowledge systems. This may have been overpowered by supporting the propagation of scientific knowledge in Europe as real knowledge and discarding the rest of the knowledge systems as silly myth. But in places where science and Catholicism could not influence strongly enough, people remained to practice all sources of knowledge systems for daily life management.

5.7. The Protestant Ethic and the Spirit of Capitalism

Weber begins *The Protestant Ethic* by noting an apparent association between certain religious affiliations (particularly Protestantism) and business success, and suggests that this association might indicate a causal connection between the two. He shows that the origin of the "spirit of capitalism" has a connection with the ideals of Benjamin Franklin (Weber 1905). At the core of the spirit of capitalism was a work ethic that said: "Any time spent not actually making money is wasted time." Weber identifies Franklin's approach, not as form of business practice, but as an ethical concept. It is this ethic, according to Weber, that specifically empowered the modern western capitalism, and it was based on Luther's idea of the religious calling or vocation. Popularization of the idea of the calling drew religious life out of the monastery and planted it in "the world of economic." Business advances (in, for example, bookkeeping) had laid the groundwork for the technical aspects of capitalism. Weber finds this motivation in the Calvinist doctrine of predestination (Gerth and Mills 1946). These doctrine states that (a) the elect are saved and everyone else is damned, (b) God has selected the chosen even before their birth and humanity has no way of knowing who will be saved, and (c) salvation cannot be earned, for if it could be, that humanity would have a kind of power over God.

At the core of Weber's argument is the sense of helplessness and loneliness that he claims the Calvinists must have felt, and looked for a sign of being among the elect. Such a sign might include worldly success, and worldly success, of course, involved ascetic, rational regulation of one's life conduct. Weber ties these Calvinist strategies to the Lutheran devotion to one's life calling (which could also take place in the business world) and claims that this combination of worldliness and ascetic discipline was pivotal for the development of modern capitalism. Since the Calvinists were not allowed to

spend their wealth on profligate living, reinvestment made the most sense. Over time, this led to increasing accumulation of capital, minimization of consumption, and ultimately the continuous economic growth and industrial energy of modern capitalism (Weber 1905).

This observation made by Max Weber is very relevant to the hypothesis of this thesis. As we discussed in the earlier chapters, the four detrimental ideologies of climate change seem to have a distant link with what Weber is proposing. It is more interesting to find out that the roots of capitalism have begun by the *perversion* of the biblical concept of salvation through God. Salvation which once had a pure spiritual role in humanity, later, due to greediness for power and wealth was misinterpreted. Such historical intended misinterpretation had changed the line of ideologies up to the present era. The colonialism and the Catholicism (salvation) later in times went hand in hand. Colonialists who took over other countries also wanted to salvage the souls of the colonies from eternal damnation. Therefore suppression of other sources of religious and traditional knowledge and belief systems happened in the name of salvation.

5.8. A Comparison of the Views of Max Weber and Emil Durkheim

Both Weber and Durkheim pursued the study of religion as a scientific study. Durkheim's "science" focused on the moral effects of religion on real life, social behaviour, and extended this, to the philosophical and even psychological realm as he studied group religious behaviour; but it is clear that Weber focused on the effects of religion on the economics aspects of life and the historical development of economic systems. Durkheim argued that repetitive religious rituals had a "conditioning" effect on the individual, which made the individual feel part of the group and behave in ways conducive to the survival of the group. As a result, religion created the moral basis of society and held society together on a fundamental level. Weber's theories of religion were more contextual, as he analysed all of the world religions, from Judaism through Islam, whereas Durkheim's theories were more general to mankind as a whole and were primarily based on the study of the Totemism of early Australian Aboriginal religion. He believed that the study of early religious behaviour provided the key to its social purpose.

Clearly, a major difference between Weber and Durkheim in the area of religion relates to their individualistic versus holistic theories, respectively. Weber's ideas were centered on the personal willful action of each individual in response to the religious beliefs of the society in which that individual participated and was dependent on. Weber's "religious individual" acted for his own betterment in order to receive favour in the eyes of god and rewards in the afterlife, and it was his moral duty to do so. More specifically, he analysed the role of the rising Protestant ethic in shaping the modern economic system. Weber mainly asked the question "what role does religion play in economic behaviour and modern culture." He showed that the increasing economic pursuits encouraged by the rise of capitalism, starting with the Reformation in the 16th

century, is rooted in the Protestant ethic and the new moral values that arose during that time. He argued that the moral duty to work hard and accumulate wealth fostered by the Calvinist style Protestantism is what effectively shaped the development of modern capitalism. He also analysed this sociological phenomenon from the perspective of both western and eastern religions. For Weber, economics was a predominant force in society. His ideas were similar to those of Marx but Weber introduced the role of religion into the economic picture. Weber didn't believe that religion was the sole mover of economic systems, it was part of a larger complexity. However, his empirical study of history and world religions showed that the effect of religion n economic development was clearly evident.

For Durkheim, social solidarity was the basis of his sociological study of religion. Rather than a wilful act, Durkheim's "religious individual" acted in an almost mechanical way to the powerful effect of group religious rituals. Durkheim supposed that the purpose of religion is not to make us think about the nature of this world or the "other world" but it is rather to tell us how to act and how to live in society, in the real world. Through sharing common beliefs and engaging in repetitive group ritual and religious activity, the morals and restraints required for social control are maintained. It was the frenzy created by group ritual that internalized and "socialized" society's moral being; the individual relinquishing his self-interest for the greater social good. By participating in religious rituals, the individual feels part of the group, clan or society as a whole. So religion had a socio-psychological effect on the individual as a component part of the society. God was society and was the creation of society. This is in distinct contract to Weber's individual and his personal relationship with his God. For Durkheim religious action was more of a mechanical reaction, for Weber, a more dynamic process.

The “group” was not essential to Weber’s study of religion. He saw that individuals created societies, whereas for Durkheim society created the individual. Weber focused his study on the effect of religion on the development of economic and social systems, including the rise of capitalism, class structures and class conflicts. He didn’t delve into the collective religious “experience” as Durkheim did, although in his studies of eastern religions he did see the unifying nature of religion in India and China including the rejection of worldliness in Buddhism. He was interested in the “rationalization” of society, protestant ethic and its focus on relationship between individuals and between individuals and their personal God, rather than the relationship of the individual with society as a whole. For Durkheim the very existence of society was dependent on the existence of religion. Weber studied complex historical development of world religions but Durkheim believed that religion could not be understood by looking only at complex societies. He studied simple economies, simple religions and simple religious life.

In his analysis of the sacred and the profane, Durkheim looked at some of the common theories of the day regarding primitive religions. Animism is the belief in spirits, the soul, a future state and a ghost-soul, which exists in dreams and fantasies. The divine is contrived from internal “mental experiences” of the soul and the ghost soul. Durkheim didn’t think animism answered his questions about the distinction between the sacred and the profane. What elevates things to the level of the sacred, to form the religious beliefs? Durkheim also saw that the first “sacred” objects were external natural objects, “things” and forces of nature. This was Naturalism, the personification of these natural objects through metaphor and images. Awesome spectacles inspired religious ideas. Again, Durkheim asked, “How did these things acquire a sacred nature and character?” To answer these questions he turned to a study of early Australian

aboriginal Totemism. He chose this group because he felt they represented the most basic, elementary forms of religion within a culture.

There are many criticisms of Durkheim's method and theories but that is not the focus of this chapter. An overview of Weber's study of religion is in order. Weber examined the effect of religious ideas on social development in the context of economics and politics. Specifically, he saw the effect of religion on the rise of modern capitalism. He believed that business interests were religiously motivated and sanctioned. Whereas the Lutheran doctrine of Protestantism was contrary to the capitalist spirit, Weber argued that the Protestant ethic, with its puritanical aestheticism, encouraged the capitalist spirit. Making money was not seen as a selfish pursuit but a moral one as it meant that one was busy and productive. One participated in the moral pursuit of hard work as a service to God.

Weber also addressed the question of why capitalism developed in the West before the East. To this end, he studied Chinese, Indian and Judaic culture, the religious institutions as well as the economic and political. "Rationality" as a force in society is necessary for western style capitalism and many aspects of eastern society were "anti-rational" and therefore didn't encourage the capitalist spirit. Weber also noted two things that influenced capitalist style economic systems, increase of precious metals, and the increase in population. He saw that both of these things were common to both East and West but it was the autonomy of cities in the West, with their independent bureaucracies that fostered the market style economy.

China did not develop an independent bourgeois class. In the East, central authority, tradition, family were still central to modern life. The difference in religious imagery between East and West also played a role. In the East, the harmony of heaven and Earth, the unseen force that pervades all was sustained in nature, tradition, family

and religion. The idea of private property was also different than the West. Further to this, eastern business people were also educated in the arts and literature, they were “Confucian gentlemen”, and were much more cultured individuals than the typical western business person. In the East, magic (and animism) was a strong force and held a large place in the lives of people in all social classes and business persons possessed the same “magical qualities” as a priest. Eastern Confucianism was all about harmony in the world, self-control and repressed passions. All of social action was guided by this idea of harmony and this was contrary to the “every man for himself” capitalist spirit. In the West, the aesthetic Protestantism eliminated “magic” from religion and the relationship between God and men took on a different nature in regards to worldly actions.

The picture was similar in India. Capitalism didn’t develop until well into English rule. Weber believed that the principal of pacifism and the “magical mentality” of Indian religion kept this from happening. Also, the caste system was based on tradition, hindered the occupational guild mentality and was anti-rational. Further, the village artisan was the “bearer of stability” in Indian society and “fixed payment” as opposed to a “market economy” kept the Indian economic system in a “conservative” mode. Plus, Indian towns had no autonomy or self-government. Buddhism had an inherent nature of a devaluing of worldly things and putting value on meditation, otherworldliness and pacifism. Lust for gain was not encouraged. This was not conducive to the swift development of modern capitalism.

In Judaism, the world was God-directed. God determined the future of the world based on the behaviour of the people, specifically the Jews. The people attended to their worldly pursuits for God. Judaism was the source of Christianity after all and the importance of Islam lies in its rational-ethical character. The idea of devotion to Yahweh

was a rational one, and was based on the rewards of earthly happiness and domination over property and worldly “things”, and not on rewards in heaven. The contract between man and God was a rational one, which began with the freedom of the Jews from Egyptian bondage. “Prophecy” had an enormous effect on relations between people and shaped class relationships and conflicts. All of this served the development of modern capitalism very well.

5.9. The New Role of Religion in Environmentalism

The aim of the thesis is not to discuss the ethical and philosophical differences of religions, but to investigate the utopian knowledge that is common to all religions, that may be beneficial to human development and environmental protections. All the religions of the world have traditionally expressed some ethical concern for the environment and its creatures. They have accorded some moral significance to other creatures, and proposed some ethical responsibilities on the part of humans, although these ethical dimensions are usually secondary, or inferior, relative to responsibilities to other humans.

Throughout history, the world's religions have understood the Earth to have some kind of religious significance, or religious value, and that humans have some religious obligations to care for its creatures. These shared ethical concerns are found in historical teachings, and not necessarily in actual religious practices. Greed and destructiveness are condemned, while restraint and protection are affirmed by most religious traditions. For reasons that are complex, controversial, and poorly understood, these religious concerns for the environment faded with the rise of modern society. The development of modern scientific, economic and political institutions have taken the place historically accorded to religion, and traditional religious attitudes toward nature have largely disappeared in modern societies. Over the past few decades, however, some leaders of every religion in the world have returned to their origins to recover their pre-modern religious environmental teachings to present them as religious environmental ethics.

5.10. Differences and Similarities between World Religions[15]

It is difficult to define religion under one title. Ten different people will give ten different meanings. For one person, religion is a complete way of life, determining what he eats, who his friends are, whom he marries, even his daily schedule. For another, religion means going to church or synagogue or temple and observing religious holidays. For another, religion is simply a way of living in the world; for another it is a belief in God. For still another, it is not a belief in God but a feeling of oneness with the universe. And for some, religion is just something practiced by other people, something that other people need to provide meaning for their lives. Even those who would not call themselves religious agree that religion has played an important role in man's history. It has given mankind some of its greatest heroes and some of its greatest tragedies. The history of religion, like the history of man, is one of love and pride, joy and sorrow, pain and greed. As long as man survives, so will religion.

The fifteen or more major religions (many other minor) are practiced in the world today and each is centuries old. Nine of the major world religions that are being investigated in this chapter are Vedaism (generally referred to as Hinduism), Jainism, Buddhism, Shintoism, Daoism, Confucianism, Judaism, Christianity, and finally Islam. There are other religions such as Zoroastrism, Schism, Sufism, Peganism, and Wicca, but these religions are not discussed in this chapter. Their importance is that for centuries they have satisfied basic human needs and answered man's basic questions. The main differences among them have to do with whose needs they satisfy and whose questions they answer. Author Muhiyaddin, M. A. (1984, 5-30) in his book, “God Is Not One: The Eight Rival Religions That Run the World” (2011) talks about how all religions

[15] Please refer to appendix 1 to understand the major philosophical differences of major religions

have a different agendas altogether. It is true that in the name of the religion many wars were fought and are being fought until today. Within the human race there are many differences, and the most important difference, where religion is concerned, is the difference between eastern and western mentality. Here the terms eastern and western do not really correspond to the eastern and western hemispheres, where religion is concerned, the terms eastern and western depend upon a man's view of life and his questions about it.

5.10.1. What Buddhism teaches about Environmentalism

Buddhism is based on the teachings of Siddhartha Gautama, the Buddha. The Buddha lived in the foot-hills of the Himalayan Mountains in Northern India from 563 to 483 B.C. The term Buddha is a title, not a proper name. It means “one who is awake,” one who has attained full humanness (Fadiman & Frager, 2002, 13-26). The Buddha never claimed to be more than a man whose realization, attainments and achievements were the result of his purely human capabilities. The central attitude in Buddhist thought is that every individual possesses this Buddha-nature, the capacity for developing into a complete human being and becoming a Buddha. The Buddha’s teachings and various commentaries on those teachings are delineated in what is called the Pali Canon, a collection of writings in the Pali language spanning the first century B.C. The core teachings of Buddhism are The Four Nobel Truths (Fadiman & Frager, 2002).

The Four Noble Truths: The Buddha sought a way to overcome the suffering he saw as an inescapable part of human life.

i. Life is characterized by suffering or dissatisfaction. When we recognize our own suffering, or dissatisfaction, the Buddha in us will look at it, discover what has

brought it about, and prescribe a course of action that can transform it into peace, joy and liberation.

ii. The cause of suffering is desire, or craving. Most people are caught up in attachment to the positive and pleasurable and aversion toward the negative and painful. Craving creates an unstable frame of mind in which the present is never completely satisfactory. If unsatisfied, we are driven to change the present. If satisfied, we fear change, which brings about a renewal of frustration and dissatisfaction.

iii. Suffering can be ended by the elimination of craving. According to Buddhist thought, one can learn to accept the world as it is without experiencing dissatisfaction. Eliminating craving does not mean extinguishing all desires. However, if one's happiness depends on the fulfilment of certain wants, or one is controlled by desires, then this will inevitably lead to suffering. Some healthy desires are necessary for survival – like those for food and sleep. Acceptance of the world refers to an even-minded attitude of enjoying fulfilled desires without lamenting the inevitable periods when desires are not fulfilled. We learn to accept that things are as they are and cannot be otherwise (Fadiman & Frager, 2002).

iv. The way to eliminate craving and dissatisfaction is the Middle Path, also called the Eightfold Path. Most people seek either to maximize gratification or – the other extreme – self-mortification. The Buddhist ideal is moderation. The basic principle of the Eightfold Path is that certain ways of thinking and acting can reduce suffering in one's self and others and promote a sense of joy and peace. Briefly, the Eightfold Path consists of:

- Right Understanding: mastering the Buddhist doctrines
- Right Intention: earnest and honest commitment to apply their implications
- Right Speech: awareness of impact of one's speech

- Right Action: awareness of impact of one's actions
- Right Livelihood: engaging in jobs and tasks that support the doctrine
- Right Effort: relentlessly and diligently working at it
- Right Mindfulness: forms of meditative practice that bring greater awareness
- Right Concentration: forms of meditative practice that bring focus and discipline

The following utopian concepts of Buddhism are universally applicable:

i. All beings are connected

Buddhism teaches that the idea of separateness is an illusion. The health of the whole is inseparably linked to the health of the parts, and the health of the parts is inseparably linked to the health of the whole. This means that caring for the environment begins with caring for oneself, in the deepest spiritual manner (Padmal, 1990, 89-100).

ii. Respect for life

Buddhist practice makes one feel, one’s existence is no more important than anyone else’s. If one treats nature as a friend and teacher, one can be in harmony with other creatures and appreciate the interconnectedness of all that lives (Padmal, 1990). Practice of compassion for all living things is an extensive practice in Buddhism, more than in other religions in comparison. Buddhism believes that all living things hold an ultimate purest potential called the “Buddha Nature” (*Thathagatha Garba*) regardless of their present state of function and manifestation, therefore it is ultimately correct and logical to honour all living beings for their ultimate nature (Padmal, 1990, 89-100).

iii. Simplicity and moderation

Buddha taught people to live simply and appreciate the natural cycle of life. Craving and greed only bring unhappiness, since demands for material possessions can never be satisfied and people will always demand more, so threatening the

environment. This is why the real solution to the environmental crisis begins with the individual.

Buddhists in Japan tell a story. The Buddha once received a donation of 500 new robes for his followers. So he considered what to do with the old ones. They would be used for bed-sheets, he decided. And the old sheets would become towels. And the old towels would be used as cleaning rags. Everything should be used and reused (Padmal, 1990, 89-100).

iv. Right livelihood

According to Buddhism, the way you earn your livelihood – not killing, not stealing, not taking more than you need – all these are part of the Buddhist way of life. A livelihood that avoids harming others, such as trading in weapons, meat, alcohol or poisons – is in harmony with nature (Padmal, 1990, 89-100).

v. Karma, the source of all good luck and bad luck

Buddhism emphasises that all actions we do from the body, speech and mind, at one point will return back to us as an equal and opposite force, known as Karma. So everybody will always reap the results of their own actions (Karma) at one point. May it be good results or bad results (Padmal, 1990, 89-100).

5.10.2. What Hinduism teaches about Environmentalism

Hinduism is the world's third largest religion and was originated in the Indian subcontinent. It is unusual that a major world religion like Hinduism doesn't have a single founder, a single religious organization, or a specific theological system and not even a system of morality, because it is a religion that has evolved over thousands of years (Chapple 1986). There are many cultural and societal influences that have made

Hinduism vital to the region in which it originated. Hinduism can be traced to the Indus Valley Civilization that took place in 4000 BC to 2200 BC (Chapple, 1990). Hinduism has a diverse body of cultural and philosophical practices. Hinduism consists of belief and tradition. The most recognized belief and traditions of the Hinduism are Karma, Dharma, Samsara and Moksha. Hindu people don't believe in violence, but they do believe in prayers, honesty, truth, austerity, celibacy and penance (Chapple 1986).

The Hindu scriptures are collectively referred to as the Shastras. The Hindu scriptures were initially passed on orally from generation to generation until finally ancient scholars wrote them down; mainly in the Sanskrit language that was the prevailing language of the time. Some of the Hindu scriptures are the Shruti and Smritis. The Shruti primarily refers to the Vedas which represent eternal truths revealed to ancient sages but some other Hindu individuals associated the Vedas with a God or a powerful person. The most known of the Smritis are the Mahabharata and the Ramayana (Chapple, 1990). The term Hindu is believed to have been coined in the 1800's by the British, however, the word Hindustān was a popular name for India during the thirteenth century, meaning 'land of the Hindus', thus showing that the word 'Hindu' was not simply invented by the British (Chapple 1986). Although the Hindus worship a large pantheon of Gods and Goddesses, they believe in the one Supreme Power that manifests itself in various forms. The ultimate salvation for a Hindu is based on the desire for liberation from earthly existence. This has arisen from the Hindu belief in reincarnation, a cycle of birth and re-birth. Reincarnation is one of the basic tenets of Hinduism (Chapple, 1990). The following utopian concepts of Hinduism seem to be universally applicable; especially, it is very relevant to the present environmental crisis.

i. Life is sacred

All living beings are sacred because they are parts of God, and should be treated with respect and compassion. This is because the soul can be reincarnated into any

form of life. Hinduism is full of stories that treat animals as divine, such as how Krishna used to herd cows, or how the monkey Hanuman was a faithful servant of the Rama. Most Hindus are vegetarian because of this belief in the sanctity of life. Even trees, rivers and mountains are believed to have souls, and should be honoured and cared for (Chapple, 1990).

ii. Simple living

The virtue of a simple life has always been prized in Hindu society. Teachers, or brahmans, are advised to live on the charity of others and not accumulate too much wealth. The most highly respected person in Hindu society is the sadhu, or sage who lives outside normal society, in forests or caves, or travels on foot from one town to another. Sadhus take pride in living simply and consuming as little as possible.

iii. Inner peace

Hinduism stresses that true happiness comes from within, not from outer possessions. This means that the search for material possessions, and the consumption of materials and the energy it brings, should not be allowed to dominate life. Life's main purpose is to discover the spiritual nature and the peace and fulfilment it brings. The efforts to exploit the things of this world are considered by Hindu teachers to be a distraction from this central purpose of life (Chapple, 1990).

5.10.3. What Jainism teaches about Environmentalism

Jainism dates to the 6th century B.C.E. in India. The religion derives its name from the *Jina*s ("conquerors"), a title given to twenty-four great teachers (*Tirthankara*s or "ford-makers"), through whom their faith was revealed. Mahavira, the last of the *Tirthankara*s, is considered the founder of Jainism (Chapple, 2002). The ultimate goal of

Jainism is the liberation of the self (*Jiva*) from rebirth, which is attained through the elimination of accumulated Karma (the consequences of previous actions). This occurs through both, the disciplined cultivation of knowledge and control of bodily passions. When the passions have been utterly conquered and all Karma has been removed, one becomes a Jina ("conqueror"), and is no longer subject to rebirth.

Whereas the Hindu faith refer to the Veda texts and rituals and to the Brahman caste for religious leadership, while the Jainism, from their last holy teacher "Lord Mahavira", developed their own sacred texts, philosophy and rituals.(Chapple, 2002). Jainas ascribe to the belief in plural life forms populating a storied universe with hell beings at the base, humans and animals in the middle region, with gods and goddesses in the upper or heavenly domains (Chapple, 2002). The goal within Jainism is to ascend to the *Siddha Loka,* a world beyond heaven and earth, where all the liberated souls dwell eternally in a state of energy, consciousness, and bliss (Chapple, 2002). There are four utopian principals in Jainism that are applicable to the present environmental and social problems.

i. Ahimsa: non-violence

This central teaching of Jainism was made famous in recent times by Mahatma Gandhi, who was greatly influenced by Jain ideas. He made Ahimsa the guiding principle of his struggle for social freedom and equality. Ahimsa means more than not hurting others, it means not intending to cause harm, physical, mental or spiritual, to any part of nature, for, in the words of Mahavira: "You are that which you wish to harm."

ii. Compassion

This is the positive aspect of non-violence: to practice an attitude of compassion towards all life. Jains pray that forgiveness and friendliness may reign throughout the world and that all living beings may cherish each other.

iii. Interdependence

This ancient Jain principle teaches that all of nature is bound together, and says that if one does not care for nature one does not care for oneself.

iv. Self-restraint

An important Jain principle is not to waste the gifts of nature, and even to reduce one's needs as far as possible. As Gandhi said: "There is enough in this world for human needs, but not for human wants."

5.10.4. What Confucianism teaches about Environmentalism

Confucianism is the term used to describe the family of traditions that are based on the teachings of Confucius (c. 551-479 B.C.E.), a Chinese thinker whose given name was Kong Qiu and whose disciples called him Kongzi ("Master Kong"). Kongzi's ideas became well known only after his death in the 5th century B.C.E (Tucke et al, 1998). The two most significant successors to Kongzi prior to the Han dynasty were Mengzi (c. 372-289 B.C.E.) and Xunzi (c. 310-220 B.C.E.). Although these thinkers disagreed about many key issues, especially human nature, they agreed on the primary issue of concern to most Confucians: how to restore and maintain social harmony (Tucke et al, 1998). Both Mengzi and Kongzi pinned their hopes for society's renewal on the appearance of a sage-ruler who would combine political power with moral wisdom, unify the fractured empire, and usher in a new age of harmony and prosperity. According to Kongzi: "One who rules by morality may be compared to the North Star - it occupies its place and all the stars pay homage to it." (*Lunyu* 2:1). For Mengzi, only a ruler who enjoyed the *Ming* (moral mandate) of *Tian* could bring order to a state; if a ruler failed to do so, his subjects were entitled to rebel against him and replace him. Xunzi saw the

ruler-subject relationship in familial terms, with the ruler as the all-powerful father entrusted with the care of his dependent subjects, who in turn benefited from his wise choices in matters of education policy and other cultural affairs (Tucke et al, 1998). Nevertheless there are some universal truths in this religion that are applicable to the present environmental problems:

i. A moral code- The Golden Rule

One day a disciple asked the Master: "Is there one word that should cover the whole duty of humankind?" And Confucius replied: "Fellow-feeling, perhaps, is that word. Do not do to other people what you do not want them to do to you." And this golden rule in Confucianism, is key to understanding the Confucian understanding of ecology (Tucke et al, 1998).

ii. The notion of benevolence

The follower of Confucianism aspires to becoming a Junzi (a sage) - a morally noble person who understands what is right and behaves accordingly. Directing this morality is the principle of Ren - humanity (literally 'personâ') - that should inform the relationship between people and nature, extending our filial love for parents and family to all living things. We should therefore show love and care for nature in all our dealings with it. The rewards for this moral behaviour are great, as Confucius follower Xunzi said: "Respond to it with peace and order, and good fortune will result. Respond to it with disorder, and disaster will follow." (Tucke et al, 1998).

iii. The notion of action before words

"The truly good man first practices what he preaches and then preaches what he practices." Confucius taught. This Confucianist teaching is an important message for long-term plans to protect the environment. This lesson from 2,500 years ago is a good teaching for many in the environment movement today. Before we ask others to change

their actions, we should first change our own actions. And then, only then, we can preach what we practice.

iv. Heaven, Earth and Humanity

Confucius taught that humanity exists in an inter-relationship between Heaven and Earth. 'Heaven' is seen as the guiding force, giving direction to change and progress, while 'Earth' provides the natural context and seasonal changes. Humanity has a moral task to work in balance with these other two forces.

v. The notion of the life force in nature

Underlying and unifying this triad of heaven, and humanity is the notion of ‘Qi’. This is understood as the material life force of the universe that runs through all things, integrating human beings with nature and driving the continuous process of change and creativity. This Confucian understanding of the universe as a holistic unity emphasises the responsibility of every person to behave respectfully and with care to contribute to the general wellbeing of creation, acting as an orderly part of a collective effort. In this way the interests of humanity are served by looking after the interests of all of nature.

5.10.5. What Daoism teaches about Environmentalism

Taoism, also known as Daoism, is an indigenous Chinese religion often associated with the *Daode Jing* (Tao Te Ching), a philosophical and political text purportedly written by Laozi (Lao Tzu) sometime in the 3rd or 4th century B.C.E (Amed et al. 1989). The Daode Jing focuses on ‘*Dao*’ as a "way" or "path" - that is, the appropriate way to behave and to lead others - but the Daode Jing also refers to Tao as something that existed "before Heaven and Earth," a primal and chaotic matrix from which all forms emerged (Amed et al. 1989). Taoism did not exist as an organized

religion until the Way of the Celestial Masters sect was founded in 142 C.E. by Zhang Daoling, who based the sect on spiritual communications from the deified Laozi. The way of the Celestial Masters and other later sects of Taoism engaged in complex ritual practices, including devotion to a wide range of celestial divinities and immortals (Girardot et al 2001, 03-23).

In the *Dao De Jing,* the basic bible of Daoism, there is a verse that says: "Humanity follows the Earth, the Earth follows Heaven, Heaven follows the Dao, and the Dao follows what is natural." This means that the whole of humanity should attach great importance to the Earth and should obey its rule of movement. The Earth has to respect the changes of Heaven, and Heaven must abide by the Dao. And the Dao follows the natural course of development of everything. Daoism views that human beings can help everything to grow according to its own way. We should cultivate in people's minds the way of no-action in relation to nature, and let nature be itself (Girardot et al 2001. 03-23).

In Daoism, it is said everything is composed of two opposite forces known as Yin and Yang. Yin represents the female, the cold, the soft and so forth. Yang represents the male, the hot, the hard and so on. The two forces are in constant struggle within everything. When they reach harmony, the energy of life is created. From this we can see how important harmony is to nature. Someone who understands this point will see and act intelligently. Otherwise, people will probably violate the law of nature and destroy the harmony of nature. Daoists also engaged with Chinese politics in a variety of ways throughout Chinese history. Taoist religious sects were persecuted in China during the 19th and 20th centuries, but are currently undergoing a revival. There are three main principles of Daoism that guide the relationship between humanity and nature, which are very similar to the utopian principals of Confucianism and Buddhism.

i. Harmony with nature

In Daoism, everything is composed of two opposite forces known as Yin and Yang. The two forces are in constant struggle within everything. When they reach harmony, the energy of life is created. Someone who understands this point will not exploit nature, but will treat it well and learn from it. It is obvious that in the long run, the excessive use of nature will bring about disaster, even the extinction of humanity (Girardot et al 2001. 03-23).

ii. Too much success

If the pursuit of development runs counter to the harmony and balance of nature, even if it is of great immediate interest and profit, people should restrain themselves from it. Insatiable human desire will lead to the over-exploitation of natural resources. To be too successful is to be on the path to defeat.

iii. Affluence in bio-diversity

Daoism has a unique sense of value in that it judges affluence by the number of different species. If all things in the universe grow well, then a society is a community of affluence. If not, this kingdom is on the decline. This view encourages both government and people to take good care of nature. This thought is a special contribution by Daoism to the conservation of nature (Girardot et al 2001. 03-23).

5.10.6. What Shintoism teaches about Environmentalism

Shinto ("The way of the Kami") is the name of the formal state religion of Japan that was first used in the 6th century B.C. Shinto has no specific founder, no official sacred texts, and no formalized system of doctrine (Tellenbah et al. 1992, 153-162). Shinto has been formative in developing uniquely Japanese attitudes and sensitivities,

creating a distinct Japanese consciousness. The belief in *Kami* - sacred or divine beings, although also understood to be spiritual essences - is one of the foundations of Shinto. Shinto understands that the *Kami* not only exist as spiritual beings, but also in nature; they are within mountains, trees, rivers, and even geographical regions (Tellenbah et al. 1992). In this sense, the *Kami* are not like the all-powerful divine beings found in western religion, but the abstract creative forces in nature.

Related to the Kami is the understanding that the Shinto followers are supposed to live in harmony and peaceful coexistence with both nature and other human beings. This has enabled Shinto to exist in harmony with other religious traditions (Tellenbah et al. 1992, 153-162). As the foundation of Japanese culture, Shinto has also played a significant role in the political realm. For centuries, religious Shinto festivals and ceremonies have become indistinguishable from the affairs of the government. Following are some Shinto eco principals that are relevant to this thesis:

i. Nature as divine

Shinto tradition acknowledges a deep debt to the blessing of nature and the spiritual power which brings about life, fertility, and prosperity. This life-giving power was called Musubi (divine power of growth), and perceived in all the workings of nature. Since the Japanese people felt the divine within nature, they came to hold the ideal of a life that was in harmony and united with nature. Mountain peaks, deep valleys, and the wide ocean were viewed as dwellings for the divine, and other natural objects such as evergreen trees and huge rocks were considered to be symbols of divine spirits (Tellenbah et al. 1992, 153-162).

ii. Shinto and agriculture

The Japanese way of life depends heavily on rice cultivation, the form of agriculture best suited to the Japanese climate. Rice is treated as a sacred and

indispensable food. Matsuri festivals are traditionally held seasonally in each region to invoke the success of the rice harvest. Over thousands of years, the rituals and festivals associated with rice agriculture gave form to the religion of Shinto. Shinto is therefore both the indigenous folk religion of Japan, and the history of the Japanese people's way of life (Tellenbah et al. 1992, 153-162).

5.10.7. What Christianity teaches about Environmentalism

Christianity developed out of Judaism in the 1st century C.E. It is founded on the life teachings; death and resurrection of Jesus Christ, and those who follow him are called "Christians". Christianity has many different branches and forms accompanied by a variety in beliefs and practices. The three major branches of Christianity are Roman Catholicism, Eastern Orthodoxy, and Protestantism, with numerous subcategories within each of these branches. Until the latter part of the 20th century, most adherents of Christianity were in the West, though it has spread to every continent and now it is the largest religion in the world (Dieter T. Hessel 1992). Traditional Christian beliefs include the belief in the one and only true God, who is one being that exists as Father, Son and the Holy Spirit, and the belief that Jesus is the divine and human Messiah sent to the save the world. Christianity is also noted for its emphasis on faith in Christ as the primary component of religion. The sacred text of Christianity is the Bible, including both the Hebrew Scriptures (also known as the Old Testament) and the New Testament. Central to Christian practice is the gathering at churches for worship, fellowship, study and engagement with the world through evangelism and social action (Dieter T. Hessel 1992). Regardless of the widely reprinted and enormously influential article published in *Science,* "The Historical Roots of Our Ecologic Crisis" (1967), by Lynn White, Jr., White himself argued that what westerners collectively think about the environment is

ultimately derived from a few verses in Genesis (1:26, 28): "*human beings alone among creatures are formed in the image of God, have dominion over nature, and are commanded to subdue it"*. White's specifically links the biblical roots with the modern environmental crisis. Nevertheless Christianity has changed its approach in dealing with the environment and nature during the present days.

Christianity recognises a tension that exists between humanity's responsibility to care for God's creation, and the human tendency to rebel against God. The main Christian churches have in the past decades re-examined their teachings and practice in the light of the environmental crisis (Dieter T. Hessel 1992). Speaking for the Catholic Church in 1990, the Pope said, "Christians realise their responsibility within creation and their duty towards nature and the Creator are an essential part of their faith." (Dieter T. Hessel 1996). For the Orthodox Church, the ecumenical patriarchate taught in 1990 that humanity ought to perceive the natural order as a sign and sacrament of God, and that to respect nature is to recognise that all creatures and objects have a unique place in God's creation. The Orthodox Church teaches that it is the destiny of humanity to restore the proper relationship between God and the world as it was in Eden. The Protestant churches, speaking through the World Council of Churches in 1990, committed themselves to conserve and work for the integrity of creation both for its inherent value to God and in order that justice may be achieved and sustained (Dieter T. Hessel 1996). The challenge to all Christians is to discover anew the truth that God's love and liberation is for all creation, not just humanity, and to seek new ways of living that restore balance and hope of life to the endangered planet.

5.10.8. What Judaism teaches about Environmentalism

Judaism is a religious tradition with origins dating back nearly four thousand years, rooted in the ancient near the eastern region of Canaan (which is now Israel and Palestinian territories). Originating as the beliefs and practices of the people known as "Israel", classical or rabbinic Judaism did not emerge until the 1st century C.E (Heribert Busse, 1998, 63-112). Judaism traces its heritage to the covenant God made with Abraham and his lineage - that God would make them a sacred people and give them a holy land. The primary figures of Israelite culture include the patriarchs Abraham, Isaac, Jacob, and the prophet Moses, who received God's law at Mt. Sinai. Judaism is a tradition grounded in the religious, ethical, and social laws as they are articulated in the Torah - the first five books of the Hebrew Bible (Heribert Busse, 1998). Other sacred texts include the Talmud and Midrash, the rabbinic, legal, and narrative interpretations of the Torah (Heribert Busse, 1998, 63-112). The contemporary branches of Judaism differ in their interpretations and applications of these texts. The four main movements within Judaism today are Orthodox, Conservative, Reform, and Reconstructionist, respectively ranging from traditional to liberal, to religiously progressive in their application of Torah. While diverse in their views, Jews continue to be unified on the basis of their common connection to a set of sacred narratives expressing their relationship with God as a holy people. Judaism tends to emphasize practice over belief. Jewish worship is centred in synagogues, which completely replaced the Second Temple after its destruction in 70 C.E. Jewish religious leaders are called rabbis, who oversee the many rituals and ceremonies essential to Jewish religious practice (Heribert Busse, 1998, 63-112). Jewish religion has ethics that are relevant to the present environmental ethics.

i. Humanity and Creation

The Jewish attitude to nature is based on the belief that the universe is the work of the Creator. Love of God includes love of all His creations: the inanimate, plants, animals and humans. Nature in all its beauty is created for us, and our connection to nature restores us to our original state of happiness and joy. The Bible informs us that the Earth is given to man ‘to use and protect’. But the ‘dominion’ mentioned in the Bible is not the dominion of a tyrant. God’s mercy extends to all He has created, as is written, “The Earth is founded upon mercy” (Shaye J.D. Cohen 1999, 07).

ii. Wasteful Destruction

Jewish teachings prohibit the destruction of anything from which humans may benefit. This applies to animals, plants, and even inanimate objects. Even in time of war, the Bible forbids the destruction of fruit-bearing trees. Sages compared the death of a tree to the departure of a man’s soul from his body: “When people cut down the wood of a tree that yields fruit, its cry goes from one end of the world to the other, and the sound is inaudible... When the soul departs from the body, the cry goes forth from one end of the world to the other, and the sound is inaudible.” (Shaye J.D. Cohen 1999, 07).

5.10.9. What Islam teaches about Environmentalism

Islam is a monotheistic religious tradition that developed in the Middle East in the 7th century C.E. Islam, which literally means "surrender" or "submission," was founded on the teachings of the Prophet Muhammad as an expression of surrender to the will of Allah, the creator and sustainer of the world (Heribert Busse, 1998, 63-112). The Quran, the sacred text of Islam, contains the teachings of the Prophet that were revealed to him by Allah. Essential to Islam is the belief that Allah is the one and true God with no

partner or equal. Islam has several branches and much variety within those branches (Heribert Busse, 1998). The two divisions within the tradition are the Sunni and Shi'a, each of which claims different means of maintaining religious authority. One of the unifying characteristics of Islam is the Five Pillars, the fundamental practices of Islam. These five practices include a ritual profession of faith, ritual prayer, the zakat (charity), fasting, and the hajj (a pilgrimage to Mecca) (Heribert Busse, 1998, 63-112). Many Muslims are characterized by their commitment to praying to Allah five times a day. One of the defining characteristics of Islam is the primacy of sacred places including Mecca, Medina, and Jerusalem. Muslims gather at mosques to worship Allah, pray and study scripture. There is not a sharp distinction between the religious and secular aspects of life in Islam; all aspects of a Muslim's life are to be oriented to serving Allah. Islam is very much similar to Judaism, and Christianity, and has environmental ethics that are relevant to the present environmental problems.

i. Khalifa - Trusteeship

Islam teaches that Allah created humans to be guardians of His creation. In other words, nature does not belong to us to do with it as we wish, but is entrusted to us by Allah for our safe-keeping. “The world is green and beautiful, and Allah has appointed you his guardian over it.”, taught the prophet Muhammad (Kaveh L. Afrasiabi, 1995, 01).

ii. Tawheed - Unity

The central concept of Islam is Tawheed or unity. Allah is unity and His unity is reflected in the unity of humanity and nature. We must therefore maintain the integrity of the Earth, its flora and fauna, its wildlife and environment. Our responsibility is to keep balance and harmony in Allah’s creation (Kaveh L. Afrasiabi, 1995, 01).

iii. Akrah - Accountability

Islam teaches that we will one day be judged by Allah for how we have discharged our responsibilities following the guidance of Islam. Have we been good trustees and have we kept nature in harmony? So there will be a day of reckoning (Kaveh L. Afrasiabi, 1995, 01).

iv. Avoid Waste

It is said in the Quran that Allah invites us to enjoy the fruits of the Earth but to avoid excess leading to waste, “for Allah does not love wasters” (Kaveh L. Afrasiabi, 1995, 01).

v. Shariah

All these principals have been translated into practical directions for how to live, embodied in the Shariah, the laws of Islam. For example, Shariah law protects animals from cruelty, conserves forests and limits the growth of cities (Kaveh L. Afrasiabi, 1995, 01).

5.11. Conclusion

The signs of a growing ecological crisis are becoming more and clearer: global warming, acidification of the oceans, the massive depletion of species. Weather patterns are increasingly unstable as our ecosystem falls out of balance - a direct result of our materialistic, fossil fuel driven culture. We are destroying our own ecosystem, the same finely balanced system that sustains us. And we seem unable to take the measures that are needed to slow down this accelerating disaster - our politicians putting short-term economic growth before any long-term ecological considerations. We have developed a materialistic culture that uses the Earth for its own selfish purpose. Rather than fulfilling our traditional role as guardians of the planet, the Earth became a means to serve our ever-increasing material desires.

Our greed now walks with heavy boots across the world, with complete disregard for the sacred nature of creation, until we find ourselves living in a dying world and yet because for centuries we have been taught to live an individualistic and egotistic lifestyle that separates us from the world. Religions can teach us to find the meaning of our psychological and spiritual life. Therefore world's religious and traditional knowledge is much more important to environmentalism and Climate Change adaptation today than ever before, because they hold the environmental knowledge source that was lost and neglected for many centuries. The role of religions is in this case is to give humanity guidance to change their hearts and souls.

Religions should provide the ethical foundation that science needs to build on. The over-emphasis of scientific knowledge has proven to be a wrong solution to modern climate problems. Ever increasing pollution, greenhouse gases and global warming are the by-products of misusing science and technology and overusing capitalism. It is time

to reconsider a renaissance of ancient philosophical and metaphysical knowledge of world communities, and use them in right decision making as well as for the betterment of sciences. But this task cannot be done through a positivist approach of mere information replication or “knowledge extraction”. Because some knowledge on its own doesn’t have a true meaning and a right function when one doesn’t understand the essential and historical processes behind it. The role of understanding traditional knowledge means understanding traditional ethics. This means, understanding these spiritual sources of those ethics (religions). The essential knowledge or the utopias of these ethics can only be understood by empathically re-living the historical knowledge process of the ancient traditions.

6. THE SOCIOLOGY OF KNOWLEDGE

"The Universal Mind contains all knowledge.
It is the potential ultimate of all things. To It, all things are possible."

- Ernest Holmes

6.1. Methods for Interpreting Foreign Knowledge

The Sociology of Knowledge may be broadly defined as the branch of sociology which studies the relation between thought and society. It is concerned with the social or existential conditions of knowledge. Scholars in this field, far from being restricted to the sociological analysis of the cognitive sphere, as the term would seem to imply, have concerned themselves practically with the entire range of intellectual products - philosophies and ideologies, political doctrines, and theological thought. In all these areas the Sociology of Knowledge attempts to relate the ideas it studies to the socio-historical settings in which they are produced and received.

The Sociology of Knowledge (Wissenssoziologie) was first used in 1924 and 1925 by Scheler (1874-1928) (Scheler [1924] 1980, 1992) and Mannheim (1893-1947) (Mannheim [1924] 1952). From its inception, it described a field of inquiry closely linked to problems of European philosophy and historicism. In several important respects, this is an accurate description, for the Sociology of Knowledge reflected the nineteenth-century German philosophical interest in problems surrounding relativism that were linked to the legacies of Karl Marx, Friedrich Nietzsche and the historicists, whose cultural philosophy of worldviews (Weltanschauungsphilosophie) was influential in German social science from the 1890s to the 1930s. Each of these developments were

concerned in different ways with the determinate relationship between thought and society, between knowledge and social structure.

For Scheler and Mannheim, Wissenssoziologie would serve as an empirical and historical method for resolving the intense conflicts of ideologies in Weimar, Germany, that followed political and social revolutions of the nineteenth and early twentieth centuries and produced warring groups whose battles were manifestly ideational and grounded in conflicting worldviews. Sociology of Knowledge would provide a method, outlined in early statements by Scheler and Mannheim, for unmasking the assumptions of political ideologies and indicating their truth content.

However much Scheler and Mannheim differed about the nature of truth within relativism, both agreed that truths do not exist apart from historical and social processes. As members of a post war generation of European intellectuals, they also shared a sense that they were witnessing the gradual disappearance of epistemology and its replacement by the Sociology of Knowledge as a foundational discipline for all philosophy. As participants in this historical process, they also believed, as did their contemporaries, that intellectuals play a vital role in thoughts and politics. In my study I have only taken the perspectives and approaches of Karl Mannheim.

6.2. Stages of Development in Mannheim's Sociology of Knowledge

6.2.1. Early Influences

Mannheim, who was born in Budapest, a Central European city where German cultural influences were predominant, spent his formative years in Hungary and Germany during a period of extraordinary social and intellectual ferment. The period was that of the First World War and the chaotic time of revolution and counter-revolution immediately following it. This was a time when, something nobody would have thought possible, suddenly turned out to be real; and what everyone had taken to be reality itself, now stood revealed as an illusion. A complete reorientation and a re-examination of all traditional ideas about reality, all values and all principles were starting to take place during that time. The "front generation" of the First World War derived a great deal of fierce satisfaction from having found out the generation of its fathers, its shams, its smugness, its profound insincerity and self-deception. Such was the psychological climate during and after the First World War, at least in the region of Germany and the Central European area under German cultural dominance (Mannheim, 1952; Stark 1958).

6.2.2. Influences of Marxism

The post war psychosocial climate of the time was the underlying influential factor for Manheim's way of thinking in Germany (and also in Russia). The stimulus of war and defeat led to revolution by the "front generations". Marxism had a fresh appeal for the 'front generation' of the post First World War era. Even though Mannheim was not an integral Marxist, he combined Marxian elements with many heterogeneous ones; but for him too, the decline of the bourgeoisie and the ascent of the proletariat were the

essential features of the contemporary phase of history. Marxism was one of the social movements at the time that believed in utopian insights. Marx uses the term “ideology” to refer to a system of ideas through which people understand their world. A central theoretical assertion in Marx’s writings is the view that “ideology” and thought are dependent on the material circumstances in which the person lives. Material circumstances determine consciousness, rather than consciousness determining material reality:”

Marx believed that social mechanisms emerge in class societies that systematically create distortions, errors, and blind spots in the consciousness of the underclass. (If these consciousness-shaping mechanisms did not exist, then the underclass, always a majority, would quickly overthrow the system of their domination). So the institutions that shape the person’s thoughts, ideas and frameworks develop in such a way as to generate false consciousness and ideology. “False consciousness” is a concept derived from Marxist theory of social class. This concept refers to the systematic misrepresentation of dominant social relations in the consciousness of subordinate classes. This means, the members of a subordinate class (workers, peasants, serfs) suffer from false consciousness that their present social status is unchangeable, not renewable and life should go forward while they accept the system as it is. Mannheim credited Marx for creating the beginnings of this field through his theory of ideology; however, Mannheim was critical of Marx’s notion that ideologies involve the conscious intention to distort reality. According to Mannheim 1930, *“ideology has no moral or denunciatory intent”.* The real false consciousness is identifying with reality that has no application at the present time. *“…an ethical attitude is invalid if it is oriented with reference to norms, with which action in a given historical setting…cannot comply. It is invalid then, when the unethical action of the individual can no longer be*

conceived as due to his own personal transgression, but must be attributed rather to the compulsion of an erroneously founded set of moral axioms." (Stark 1958).

6.2.3. The Synthesis Movement

There were other theoretical utopian movements in the fields of art, literature and history. One of these movements was that towards 'synthesis' in the cultural sciences, especially in the history of ideas, of art, and of literature. Its spirit was one of revolt against the old, lifeless methods of historical research. Pre-war work in these fields was seen as having been largely devoted to meaningless detail, without any sense of the structure and significance of the whole. In the history of literature, for instance, the 'old school' traced individual 'motifs' through their many incarnations in literary works; it also tried to ascertain the literary or biographical 'influences' that shaped the work of the various authors (Mannheim, 1952; Stark 1958).

To the new 'synthesis' movement, a 'motif' without its meaning, without its living significance in a context, seemed meaningless. The real task was that of reconstructing the spirit of past ages and of individual artists in a sympathetic, evocative way. This new trend was characterized by a complete rejection of 'positivism', that is the attempt to analyse human, cultural, intellectual phenomena in terms of causal mechanisms also operative in inanimate nature. But this did not mean that these things were beyond the reach of 'science'. On the contrary, in so far as cultural and human phenomena were concerned, only the bold, 'synthetic' anti-positivist approach was truly 'scientific'. Wilhelm Dilthey was one of the earliest representatives of this point of view. This new 'synthetic' trend exerted a new wave of utopian thinking upon German academic thinking at that time. Mannheim responded strongly to the new 'synthetic' trend; a

radical contrast between the 'static' concepts of natural science and mathematics on one hand and the 'dynamic' concepts of historic and social sciences on the other, became one of the essential features of his thinking (Mannheim, 1952; Stark 1958).

6.2.4.Structural Analysis of Epistemology

Some of the germinal ideas around which Mannheim developed his sociological theory of the mind can be found expressed in an early work, devoted not to sociological but philosophical problems. This was his doctor's thesis, Structural Analysis of Epistemology (1922). It looked at a thing from a 'structural' point of view to explain it not as an isolated, self-contained unit, but as part of a wider structure; the explanation itself is based not so much on the properties of the thing itself as on the place it occupies within the structure. Adopting this 'structural' approach, one sees that the 'meaning' of some individual phenomenon, e.g. an utterance, can be determined only with reference to the conceptual system to which it belongs. In the 'Sociology of Knowledge', this principle plays an extremely important role.

The Structural Analysis of Epistemology follows the usage of the neo Kantian school in defining logic: logic is the science which deals with concepts, judgments, and systems and, above all, with their 'validity' or logical worth. This 'logic', of course, has nothing to do with rigorous, formal logic as it is understood by present-day logicians, and mathematicians. To Mannheim, the central problem of logic was and remained 'validity' rather than consistency: The question was only whether one had to accept the timeless, absolute validity, or rather relative, 'situationally determined' validity for scientific assertions. The relationship between the 'genetic process' in history and the ‘validity' of knowledge play such a considerable role in Mannheim's Sociology of

Knowledge, and they are not at all contradictory according to Mannheim. Mannheim admits that there is a 'tension' between the concept of absolute validity and the 'empathy' which the historian must make use of when they interpret earlier philosophers. He asks: What is the significance of the temporal for the non-temporal? What ideas are 'possible' at just one time, and not at other times?

This question later receives a sociological answer: It is historical and social reality which creates the possibility of certain insights. The main conclusion reached in the Structural Analysis is that epistemology is not a self-contained discipline; it cannot furnish a standard by which we should be able to distinguish truth from falsehood. All it can do is to re-arrange knowledge already supposed to have been achieved, and trace it back to some science which is supposedly 'fundamental' in that it deals with a field in which every item of knowledge may be considered as having its origin. What is important in this for the later development of the Sociology of Knowledge is that a philosophical discipline, epistemology, is stated to be unable to solve its problem by its own resources, so it must look elsewhere for a standard of true knowledge. In his Structural Analysis, two other disciplines, philosophy and psychology, play this role of fundamental sciences; later, that role is taken over by sociological theory (Mannheim, 1952; Stark 1958).

6.2.5. The Weltanschauung Concept

In the essay on Interpretation of Weltanschauung Mannheim took up the problem of the proper scientific treatment of 'cultural' objects. The main thesis is that cultural objects cannot be treated by the methods of natural science, for the correct understanding of cultural phenomena always involves the interpretation of meanings,

and meanings cannot be 'observed' like the things with which physicists deal. In dealing with such objects, the first difficulty encountered is that, ‘interpretation’ itself is a theoretical pursuit; the things to be interpreted are rebellious toward the theoretical approach. Disciplines such as art, religion, social and political action are, one might say, 'irrational' things, to be 'felt' but not to be analysed. Mannheim, however, rejected this irrationalism. In the essay on Weltanschauung he states that all cultural productions are essentially irrational and impervious to analysis, as well as against the doctrine that all scientific analysis must confirm to the model of natural science. Mannheim's position in the essay was that the 'a-theoretical' phenomena were not 'irrational'; it was interpretable and analysable. The task of analysis consisted in discovering the structural whole to which these a-theoretical phenomena belonged; once this was accomplished, it was possible to account for their genesis and for the laws of their development.

In this fashion, theory could be super-imposed upon the a-theoretical. This task, however, could be carried out on various levels. Meaning of the phenomena could be defined in three levels as 'objective', 'expressive', and 'documentary' meanings. The first kind of objective meaning is the most superficial one where the structure in terms of which it is defined is of simple means and correlation. Expressive meaning is less obvious: we can detect and interpret it by finding out what emotional-psychic state a subject has intended to express by a work or by an action. 'Documentary' meaning is the most recondite and fundamental meaning. It consists in what a work or action reveals about the author's total orientation and essential character. This is, as a rule, hidden from the author himself; he is the instrument rather than the master of the ‘documentary' meaning manifested by his products. The study of Weltanschauung is a 'dynamic' kind of study: it requires sympathetic participation rather than detachment. This may be against the exact scientific method, yet it would be a wrong kind of positivism to disregard Weltanschauung. Further essential study of Weltanschauung led

Mannheim to its final manifestation as the Sociology of Knowledge (Mannheim, 1952; Stark 1958).

6.2.6.Max Scheler Influence

The essay on Sociology of Knowledge (1925), Mannheim's first outline of the theory which is presented in full detail in Ideology and Utopia, is a discussion of Max Scheler's problem of a Sociology of Knowledge. As mentioned in the previous section, Scheler was a leading member of the phenomenological school and the author of a radically anti-relativist theory of values and he became the first proponent of a sociological theory of knowledge in which Mannheim himself saw a confirmation of his theory of Weltanschauung.

Max Scheler hit upon the idea of Sociology of Knowledge as part of a vast strategic conception in his campaign against positivism. What Scheler wanted to achieve by a sociological analysis of the various types of knowledge was the annihilation of Comte's famous theory of the 'three stages' human knowledge passes, from a 'theological' through a 'meta physical' to a final 'positive' stage, that of science. Science is the last word; after its advent, the earlier 'stages' are left behind, antiquated, dead. Essentially, by showing that 'science' was not the paradigm, the only adequate form of knowledge, the present ascendancy of natural science was by no means proof that science was a superior form of knowledge, more valid than religion or metaphysics. It was merely the consequence of certain sociological' facts. And Sociology of Knowledge was needed to find out which type of thinking would be practised by men at this or that time.

Scheler said, science will be cultivated in societies dedicated in the first place to the manipulation and control of things. Such a society is the bourgeois capitalistic one. Societies dedicated to the pursuit of other values, especially spiritual ones, will cultivate other forms of knowledge. From the vantage point of a free, disinterested meditation of things of the spirit, the scientific form of knowledge appears as a rather inferior, though valid, form. And Scheler's earlier works showed, it was the Church which in fact supported exact science and technology to suppress other sources of knowledge, because the 'spontaneous, metaphysical sources of knowledge' were an enemy of both, dogmatic Catholic religion and materialist natural sciences (Mannheim, 1952; Stark 1958).

6.3. Karl Mannheim's Sociology of Knowledge

The Sociology of Knowledge is an interesting but somewhat specialized field of research in sociology. Basically, the idea is that **knowledge** - by which I mean roughly "evidence-based representations of the natural, social, and behavioural world" - is socially conditioned, and it is feasible and important to uncover some of the major social and institutional processes through which these representations are created. There is a cognitive side of the field as well: the idea that our cognitive frameworks and conceptual schemes are influenced by social conditions and our own social locations. So, presuppositions, concepts and explanatory scripts have social antecedents that become psychologically real. And, often enough, these presuppositions work to obscure the world even as they provide frameworks for representing the world.

Mannheim's Sociology of Knowledge is empirical because he was interested in studying how social relationships influence thought; but he was neither a determinist nor

a positivist. In fact, Mannheim was highly critical of positivism because it allowed no role for theory and, by focusing solely on material reality, neglected the importance of understanding and interpretation. Mannheim was also critical of phenomenology because it focused too much on mental or cognitive phenomena without addressing how these related to the material world. Mannheim viewed the task of the Sociology of Knowledge as one of integrating the empirical orientation of positivism with the cognitive orientation of phenomenology. He also argued that the Sociology of Knowledge should be informed by rationalism rather than relativism (Mannheim 1952).

It is worth observing that this field asks some of the same questions that the sociology of science poses as well. Robert Merton, for example, wanted to understand more fully how the institutional settings of scientific research conditioned the creation of scientific knowledge. And historians and sociologists of science such as Thomas Kuhn and Peter Galison give substantial attention to the particular features of the social and practical conditions within which scientific concepts and theories emerge.

The book ‘Ideology and Utopia: An Introduction To The Sociology Of Knowledge‘ by Karl Mannheim expanded English edition of 1936, is concerned with the problem of how men actually think. (1) The aim of these studies is to investigate not how thinking appears in textbooks on logic, but how it actually functions in public life and in politics as an instrument of collective action. (2) The principal thesis of the Sociology of Knowledge is that there are modes of thought which cannot be adequately understood as long as their social origins are obscure. (3) The Sociology of Knowledge seeks to comprehend thought in the concrete setting of an historical-social situation out of which individually differentiated thought only very gradually emerges.

Mannheim argues in this 1936 introduction that knowledge frameworks do not come to human beings full-blown; instead it is a major historical and cultural task to

create such frameworks. And this is just as true for the problem of knowing how social relationships work as it is for understanding the workings of the natural world. The conceptual frameworks and explanatory hypotheses that we form are contingent and historical products, and they have a social history. It takes a certain level of complexity of society to permit us to even begin to notice the specific and controvertible presuppositions of our knowledge frameworks. Essentially, this is the period in which people with different interests and life situations come into communicative interaction with each other. Disagreement raises the possibility of cognitive criticism. Two ideas are particularly core for his Sociology of Knowledge, ideology and utopia.

6.4. Introduction to Ideologies and Utopias Ideology

According to Paul Ricoeur 1991, in terms of the social imaginary concept idea, that defines our political, cultural, and social communities, “the truth of our condition” is accessible to us only through a certain number of imaginative practices, among them, ideology and utopia” (Ricoeur 1991, 181-185). In everyday speech we tend to think of ideology in terms of ideologues, in the context of the liberal-conservative “debates” of the presidential election cycles or in terms of “judicial activism” and nominees to the Supreme Court. Philosophically, ideology is associated first with Karl Mannheim’s *Ideology and Utopia* and, most conspicuously, with Karl Marx’s critique of ideology in *The German Ideology* and elsewhere (Ricoeur 1991, 181-185).

However, while ideology does serve to cement certain culturally constructed ideas and perspectives, Ricoeur warns us that it “cannot be reduced to the function of distortion and dissimulation, as Marxism would have it.” Ideology is a necessary part of group identity, and it does not always work as an instrument of domination or oppression. Following Max Weber, Ricoeur (1986, 150) points out that ideology is constituted on the most basic level of social action and meaningful behaviour. “Ideology… [is] tied to the necessity of any group to give itself an image of itself, to ‘play itself’ in the theatrical sense of the word, to put itself at issue and on stage.” In other words, ideology is constitutive of *any* social identity. There is no social group that does not relate to its own being, at least in part, through such an imaginary representation of itself. Every group has a “face” that it presents to the world and that face is something members of the group shape and develop through the interpretation of relevant symbols and stories. We narrate and describe who we are, what makes us “us” and not “them”.

However, the omnipresence of ideology does not eliminate the element of distortion that Marx identifies or the possibility that such distortion can overwhelm and obscure the positive aspects of ideology. The pathological aspect of ideology comes from its function of reinforcing and repeating the social tie in situations that are after-the-fact. Simplification, schematization, stereotyping, and ritualization arise out of a distance that never ceases to grow between real practice and the interpretations through which the group becomes conscious of its existence and its practice (Ricoeur 1986, 150). The distance between the events that a group claims as significant and the interpretation after the fact of those events leaves open the possibility not only of distortion via simplification and ritualization, but also the possibilities of active dissimulation. Vicious expressions of patriotism and nationalism - which manifest themselves in parochialism, scapegoating, racism, sectarianism, and, at the extreme, “ethnic cleansing” and genocide - are examples of pathological ideology. The possibility of a pathological expression of ideology is especially acute when ideology is co-opted by systems of power or authority, as in the case of various totalitarian regimes. “The function of dissimulation clearly wins out over the function of integration when ideological representations are captured by the system of authority in any given society. (Because) all authority seeks to legitimate itself.” (Mannheim 1954)

According to Mannheim (Ricoeur 1991, 181-185), an utopia can emerge from a single individual. However, this individual’s ideas must be translated into action by a collectivity to bring about social change. Four historical ideal types of utopia are identified by Mannheim: *orgiastic chiliasm* (carried by the lower strata), *liberal-humanitarian* (carried by the bourgeoisie and intellectuals), *conservative* (carried by the status quo), and *socialist-communist* (carried by the proletarian). Unlike ideologies, utopias, according to Manheim, are the universal laws and underlying timeless truths that simply stand out for what they are.

Mannheim lists four main varieties of utopias. "*Orgiastic chiliasm"* utopia is ecstatic oriented, and tends to be unreflective and irrational. Persons who embrace such doctrines tend to be of the lowest stratum in society. "*Liberal-humanitarian"* kind of utopia tends to be adopted by the middle class intellectuals. It is a bourgeoisie vision grounded in rationality that sees society moving slowly but steadily in the desired positive direction. ***"****Conservative"* utopia is the reactionary response to the first two types of expressions. Such individuals want the world to continue as it is. Emphasis may be placed on the worthwhile traditions from the past that make it imperative to continue to keep things as they are. ***"****Socialist-communist"* utopia is aimed at overthrowing the present system in favour of a new, classless society.

In what form a utopia is presented, it must be without distortions or colorations due to personal and local views and notions. Of course, there are many different kinds of utopias and therefore utopia must be defined in terms of its form rather than its content. Unlike ideology, utopia does not engage in dissimulation; it is what it says it is - the imaginary project of another reality (Ricoeur 1991). The central idea of utopia is expressed in the literal meaning of the word as *u-topos*, that is, a no-place. Such an a-topographic space the field of the possible extends beyond the real, helping us to imagine other realities, other ways of living and being. According to Ricoeur, the "extraterritoriality" of utopia allows us to "take a fresh look at our reality." It allows us to rethink "the nature of family, consumption, government, religion, and so on". Utopian thinking is prominent in environmental visions of a carbon-neutral society, or in abandoning globalization in favour of local economies.

Utopia and ideology are, like *yin* and *yang*, in constant, interdependent movement against each other. Thus, utopias not only critique and subvert power; they offer alternative ways of arranging and deploying power. A social system cannot live on

utopias; such a society will be an “enlightened one”, indeed, in the same way society without utopias will be a “static one” (Ricoeur 1991, 185). So, ideology and utopia resist and oppose each other; and, in addition, each form harbours within itself a pathological excess.

How are we to proceed in the face of these difficulties? “First, we must come together to think of ideology and utopia in terms of their most positive, most constructive and most healthy modalities.” We must try to hold together the integrative function of ideology and the subversive function of utopia. Although these two phenomena may appear mutually exclusive, in fact they dialectically imply each other. The chiasmus of ideology and utopia is the result of two fundamental directions of the social imaginary: (1) the move toward “integration, repetition and reflection” and (2) the “eccentric tendency toward wandering.” This chiasmus is irreducible (Ricoeur 1991, 185). Therefore people need to adapt and humanise these fundamental utopian laws to their own cultural, environmental, economic contexts. Disappearance of ideologies will make the world a dull place, without diversity and new vision, but the disappearance of utopian thinking will bury the world in the pit of delusions and self-illusions of “false consciousness” (Mannheim 1954).

6.5. Transmitting the Knowledge: Sociology of Education

The challenges that we face today and in the future call for a paradigm shift in human thinking. The approaches of the past cannot be relied on to help us in the future. Our learning environments must “match the needs of our learners to a world that is changing with great rapidity” (Hayes Jacobs, 2010). This new century is calling for a move from a linear and logical way of thinking, facilitated by the left side of the brain, to an approach involving creativity, empathy and synthesis. Our learning organisations need to prepare our children for the future and the imposing challenges they will face. The factory model of education installed in our schools is not providing our children with the tools they need to function in today’s world, or that of the future. Humans have moved from Industrial Age (when our educational institutions were established) through the Information Age and into the Conceptual Age. Our “current system of education was designed and conceived for a different age” (Robinson, 2010). A new age calls for a new approach to education.

The Sociology of Education, as an extension of Sociology of Knowledge, is therefore indispensable. By studying an education system sociologically, it means to consider the relation of societal thought and group interest in moulding that education and also to evaluate objectively the possible ramifications or consequences of an education system to the society at large. “In our age it is not enough,” states Mannheim, “to say that this or that educational system or theory or policy is good. We have to determine for what it is good, for which historical aims it stands and whether we want this educational result.” (Karl Mannheim 1964). Thus, “the study of education must concern itself with a clarification of both of what education is and what it aims at being. The definition of what education is involves an analysis of techniques and the definition

of aims is concerned with an assessment of values which help to decide, among other things, what methods should be used" (Karl Mannheim 1964).

The primary aim of Sociology of Education, in Mannheim's term, is how to understand the prevailing education system, recognizing its strength and limitation, in order to set a reform planning, as part of the reconstruction of man and society. "Our investigation into the sociological foundations of education cannot be a purely academic one, piling up facts for their own sake. There is something definite we want to know. We are in search of something which should never be lost sight of in our research. We want to understand our time, the predicament of this age and what healthy education could contribute to a regeneration of society and man." (Karl Mannheim 1964). Certainly this is a good point to reflect whenever we are attempting a reform for education. A multi-disciplinary approach, especially a critical diagnostic type of analysis, is much warranted. Mannheim puts it well: "Anyone who wishes to make any pronouncements on how education should be practised has to be prepared to use all the relevant information he can discover from the study of politics, history, economics, the sciences, the arts and so on, because the whole enterprise of education aims at picking out certain essentials from that culture which are thought to be important." (Karl Mannheim 1964).

Most importantly, such thinking reflects an ability to recognize or grasp the problems that are to be addressed by the community urgently. In other words, the absence of thinking; it can also be our ideological comforts that prevents one from seeing the shortcomings of the education system itself, in the midst of ever-changing context and demands of modern society. As Mannheim puts it aptly, "the absence of certain concepts indicates very often not only the absence of certain point**s** of view, but also the absence of a definite drive to come to grips with certain life problems."

6.6. Social Movements: Climate Revolution

In order to change our vision effectively one need to step out of the present mainstream environmentalism and rethink from an alternative perspective. During times of turmoil and lack of political immunity, new utopian ideals have always risen to change the path of humanity. Behind the uprising of new utopia were always social movements. During the past three decades the Climate Change disaster has made the stage for new Environmental Social Movements with alternative ethics to up rise.

Old Ideologies, new utopias and social movements - what is their relationship? Utopia grows out of “a discontent with the actuality of human existence” (Bloch, 1986) and it expresses “a desire for better” (Levitas, 2001). Karl Mannheim, defines it in Utopia and Ideology as “The Relationship ~~to~~ between the utopia and the existing order turns out to be a dialectical one.” By this he meant that every age allows to arise (in differently located social groups) those ideas and values in which in condense form are contained the unrealized and unfulfilled tendencies which represent the need of each age. These intellectual elements then become explosive material for bursting the limits of the existing order. Existing order gives birth to utopias that in turn break the bonds of the existing order, leaving it free to develop in the direction of the next order of existence**.**

In other words, it starts on the imaginary; as an idea, a feeling, a wishful thinking. By negating the present situation, it opens up a space where the first step towards a new order can be taken; however without social movements that space disappears, utopia stays as an impossibility, impracticability, just another ‘dream’ that seems unrealisable and ‘prospect’ that hardly seems to matter’ (Unger, 1987). If a social movement comes and occupies that space, look at the many alternatives that emerge

by the negation of the present. It does not keep quiet, gives a voice to the “discontent” and articulates “the better”. Now, utopia becomes a possibility, an alternative, a new order and no longer a wishful thinking; it becomes “the will to achieve social transformation, meaning a leap into a new stage of being in which contemporary values in at least one are totally transformed or turned upside down” (Manuel and Manuel, 1982). Utopias therefore are open spaces where social movements emerge. Social movements therefore are the carriers of those utopias from the imaginative to reality.

6.7. Sociology of Climate Ethics

These concepts of Sociology of Knowledge and Education can be considered in the process of translating and integrating religious knowledge (Ethics) in to Environmental Ethics and Environmental Education. The whole environmental movement itself is divided based on their ideologies. For example the North American environmentalism emphasises on wilderness preservation, although there are increasingly global or universal concerns about the anthropogenic climate change. Another example are the present political leaders in Europe and America. They are not advocating for changes in human consumption and exploitation, instead, they are promoting technical policy fixes like pollution controls and higher vehicle mileage standards etc. to protect the climate.

In the controversial essay “The Death of Environmentalism” (2004), the follow up “Death Warmed Over” (2005), by Michael Shellenberger and Ted Nordhaus make a challenging argument that the environmental movement as traditionally conceived, is on its last legs and that new thinking is in order if environmental causes are to have any hope of success. This argument is, at root, an attack on the environmental ideology that has formed over the past forty years, an ideology that no longer is capable of achieving environmental goals due to the stagnation ~~and~~ of its vision. The fundamental question addressed by “The Death of Environmentalism” is whether current environmental policy proposals are sufficient to address the looming environmental issues such as Global Climate Change. Shellenberger and Nordhaus conclude that they are not, and that a fundamental shift in strategy is needed if environmental advocates are to have any chance of successfully participating in the political process. Their argument begins by noting that people and organizations representing the environmental movement today find themselves politically less powerful than they were fifteen years ago and, as a

result, modern environmentalism is no longer capable of dealing with the world's most serious ecological crisis (Global Warming).

We need to take a step back from fighting small battles and advocating technical solutions to articulate a "big vision" and a "core set of values" and it's better not to better sell narrow, and mythical visions and technical policy proposals but rather to figure out who we are in the environment and who we need to be to be to play our role correctly.

7. A NEW ETHICS FOR THE WORLD

"The further the spiritual evolution of mankind advances, the more certain it seems to me that the path to genuine religiosity does not lie through the fear of life, and the fear of death, and blind faith, but through striving after rational knowledge. Without 'ethical culture' there is no salvation for humanity."

- Albert Einstein

7.1. What is the Environmental Ethics Movement?

This Chapter will focus on various modern environmental philosophies known as ***Environmental Ethics*** that serve as new utopias against the present detrimental environmental ideologies. There are several distinctive features of environmental ethics that deserve one's attention. First, Environmental ethics extends the scope of ethical concerns beyond one's community and nation to include not only all people everywhere, but also animals and the whole of nature – the biosphere – both now and beyond the imminent future to include future generations.

Secondly, environmental ethics is interdisciplinary. There are many overlapping concerns and areas of consensus among environmental ethics, environmental politics, environmental economics, environmental sciences and environmental literature, for example. The distinctive perspectives and methodologies of these disciplines provide important inspiration for environmental ethics, and environmental ethics offers value foundations for these disciplines. They reinforce, influence and support each other.

Thirdly, environmental ethics is plural. From the moment it was born, environmental ethics has been an area in which different ideas and perspectives compete with each other. Anthropocentrism, animal liberation/rights theory, biocentrism

and ecocentrism, all provide unique and, in some sense, reasonable ethical justifications for environmental protection. Their approaches are different, but their goals are by and large the same, and they have reached this consensus: it is everyone's duty to protect the environment. The basic ideas of environmental ethics also find support from, and are embodied in, various well-established cultural traditions. The pluralism of theories and multicultural perspectives is critical for environmental ethics to retain its vitality.

Fourthly, environmental ethics is global. Ecological crisis is a global issue. Environmental pollution does not respect national boundaries. No country can deal with this issue alone. To cope with the global environmental crisis, human beings must reach some value consensus and cooperate with each other at the personal, national, regional, multinational and global levels. Global environmental protection depends on global governance. An environmental ethic is, therefore, typically a global ethic with a global perspective.

And fifthly, environmental ethics is revolutionary. At the level of ideas, environmental ethics challenges the dominant and deep-rooted anthropocentrism of modern mainstream ethics and extends the object of our duty to future generations and non-human beings. At a practical level, environmental ethics forcefully critiques the materialism, hedonism and consumerism accompanying modern capitalism, and calls instead for a 'green lifestyle' that is harmonious with nature. It searches for an economic arrangement that is sensitive to Earth's limits and to concerns for quality of life. In the political arena, it advocates a more equitable international economic and political order that is based on the principles of democracy, global justice and universal human rights. It argues for pacifism and against an arms race (Gardiner, S.M., 2006.).

7.2. The History of Modern Environmental Ethics

During the mid-twentieth century, environmental degradation reached crisis proportions after technologies, developed for war, became redirected to peaceful uses. For example atomic weapons technology was adapted to generate electricity; DDT, originally manufactured to delouse soldiers, was indiscriminately broadcast as an agricultural pesticide; and high compression internal combustion engines designed to power military aircraft and tanks, were redesigned to power automobiles, trucks, tractors, crop dusters, and bulldozers. These developments contributed to the dramatic rise in the post-war standard of living in industrialized countries, but toxic radioactive wastes were produced, non-targeted organisms were killed, and formerly clean air and water were heavily polluted with petroleum by-products.

During this time people were informed about the destructive post war environmental changes happening. The most influential writings of the time included: *Our Plundered Planet* by Fairfield Osborn, *Silent Spring* by Rachel Carson (1962), *The Quiet Crisis* by Stewart Udall (1963), and *The Closing Circle* by Barry Commoner (1971). *A Sand County Almanac,* written by Aldo Leopold (1949), had prophetically anticipated the emergence of an environmental crisis and proposed the evolution of a "land ethic" as the only appropriate remedy to these complex environmental problems.

In a widely reprinted and enormously influential article published in *Science,* "The Historical Roots of Our Ecologic Crisis" (1967), Lynn White, Jr. set the agenda for future environmental ethicists. His fundamental assumption, that what we do collectively depends on what we collectively think; and the corollary to this, that to change what we collectively do depends on changing what we collectively think, led us to the conclusion

that if we are to change what we do to the environment, we must begin by changing what we think about the environment.

There are two schools of thought within environmental philosophy that have existed alongside the dominant discussions almost since the field's inception. Some of their central claims have been incorporated into mainstream discussions over the years; others have not. The first school of thought is called Deep Ecology and was founded by the Norwegian philosopher Arne Naess (Naess, A. 1973, 95-100). Naess proposed that an adequate response to environmental problems required a shift not only in our ethical claims, but also in our metaphysical and epistemological assumptions about the world. Ethically, he advocated 'biospherical egalitarianism', the view that all living things have an equal right to flourish. Living up to this principle, Naess argued, requires humans to radically rethink our modes of life, including our economic activity, our political institutions, and our acceptance of human population growth. Metaphysically, Naess argued for a revised understanding of the self, in which the self is seen as relational rather than discrete and bounded, and in which it is seen as including aspects of the natural world rather than distinct from the natural world. With this extended conception of the self in place, environmental ethics is then seen as a project of self-realization. Not all deep ecologists accept Naess's metaphysical claims, but the movement generally supports the changes in human behaviour and institutions that Naess described.

The second school of thought that has had a profound impact on environmental ethics is Eco Feminism (Warren, 1990, 125-143). Ecofeminist analyses often begin by pointing out the parallels between systems of domination that affect women and those that affect nature. Both women and the natural world have been portrayed as passive, irrational, and in need of control by civilizing forces, and these understandings have helped to justify their subordination. Ecofeminists argue that in many cases, it is the

very same systems that oppress both women and the natural world: cultural assumptions privilege certain modes of interaction over others (for example, rational over non-rational modes of engagement), ethical systems take seriously certain forms of justification and not others (for example, appeals to abstract conceptions of beings and their rights rather than to the concrete and emotionally complex relationships in which situated beings find themselves), and human cultural self-understandings consider some activities to be crowning cultural achievements (agriculture, industrialization) and others (gathering food, raising children) to be just ordinary background activity.

7.3. Biocentrism and Ecocentrism

Anthropocentrism[16] is the position that human beings are the central or the most significant species (more so than other species), or the assessment of reality through an exclusively human perspective. The term can be used interchangeably with *humanocentrism* or *human supremacy.* It is often considered to be the root cause of problems created by human interaction with the environment; however, it is profoundly embedded in many modern human cultures and conscious acts. Non-Anthropocentrism is the major concept the field of environmental ethics and environmental philosophy is based on. Nevertheless, Non-Anthropocentrism itself has also two different opposing views.

During the early debates about the value of the natural world, was the question of what kinds of entities are morally significant in their own right. Some theorists argued that individual persons, animals, plants, etc. are valuable in their own right, while the value of the larger wholes that these individuals comprise - species, ecosystems, the biosphere, etc. - is merely derivative of the value of the individual constituents. This view came to be called individualism; theories generally considered to be forms of individualism are biocentrism (the view that each living thing matters morally in its own right) and animal rights (the view that some or all animals have moral rights).

Others argued that we should consider wholes to be the primary bearers of value and the value of individuals to depend on the contribution that those individuals make to the good of the wholes. This view came to be called holism; the most common type of holism in environmental ethics is ecocentrism (the view that ecosystems matter in their

[16] It is important to notice that there are significant differences between the classical *humanistic Anthropocentrism* and *modern Anthroposophism movement* (sometimes they are misunderstood as the same movement); In other words Anthroposophism, which was developed by Rudolf Steiner, in order to understand Catholic biblically depicted spirituality through analysis and scientific method

own right, and individuals have value in virtue of the contribution they make to eco systemic functioning). Proponents of holism argue that it, unlike individualism, is able to attribute greater or lesser value to individuals depending on their contribution to ecosystemic processes.

Individualist theories, they argue, must attribute value to all living things equally, with the result that common animals such as sheep or pigs have as much value as members of rare or endangered species, that domesticated animals have as much value as wild animals, that members of destructive invasive species have as much value as the members of the native species that they threaten, and so on. Holists argue that egalitarianism about the value of individual organisms is an *"ecologically wrong-headedness*"; some individuals simply have more ecological value than others (from their own right), and an adequate environmental ethic needs to take account of this difference. Proponents of individualism, however, charge that holists unjustifiably disregard the worth of individuals by considering their worth to be derivative of their ecological contributions. Some individualists have labelled holists *'eco-fascists'*, a way of emphasizing their worries about views that consider individuals to have value only insofar as they contribute to the greater good of the communities to which they belong.

This debate between individualists and holists is partly responsible for tensions among proponents of animal rights and proponents of holistic approaches within environmental ethics. Over the years, the differences between these approaches eventually became so great that some theorists began to consider animal rights movement (individualists) as a distinct field study from environmental ethics and holism to be the true environmental ethics.

Although individualists and holists are similar in many ways, *individualism or biocentrism* is most commonly associated with the work of Paul Taylor, especially his

book Respect for Nature: A Theory of Environmental Ethics (1986). (Curry, 2006, 19-25) But the origin of Biocentric ethics includes Albert Schweitzer's ethics of "Reverence for Life", Peter Singer's "ethics of Animal Liberation" and Paul Taylor's "ethics of biocentric egalitarianism" (Curry, 2006, 19-25). Taylor maintained that biocentrism is an "attitude of respect for nature", whereby one attempts to make an effort to live one's life in a way that respects the welfare and inherent worth of all living creatures. The four main pillars of a biocentric outlook are (Judi Bari*,* 1995*)*:

i. Humans and all other species are members of Earth's community.

ii. All species are part of a system of interdependence.

iii. All living organisms pursue their own "good" in their own ways.

iv. Human beings are not inherently superior to other living things.

Holism or ecocentrism, on the other hand, takes a more holistic approach, giving moral priority to species and ecosystems rather than the individuals that compose them. The ecocentric ethic was conceived by Aldo Leopold (Leopold, 1949.) and recognizes that all species, including humans, are the product of a long evolutionary process and are inter-related in their life processes (Leopold, 1949.). The writings of Aldo Leopold and his idea of the land ethic and good environmental management are a key element to this philosophy. Ecocentrism focuses on the biotic community as a whole and strives to maintain ecosystem composition and ecological processes. Arne Naess, the Norwegian philosopher who first outlined this shallow-deep split in environmentalism says, *"deep ecologists advocate the development of a new eco-philosophy or "ecosophy" to replace the destructive philosophy of modern industrial society*." (Naess, 1973, 95-99).

Naess's own ecosophy involves just one fundamental ethical norm: "Self-realization". For Naess, this norm involves giving up a narrow egoistic conception of the

self in favour of a wider more comprehensive **Self** (hence the deliberate capital “S”). Moving to this wider **Self** involves recognizing that as human beings we are not removed from nature, but are interconnected with it. Recognizing our wider Self thus involves identifying ourselves with all other life forms on the planet. Naess’ deep ecology has 8 principals (Naess, 1989, 80-90).

i. The flourishing of life on Earth, human and non-human, has intrinsic value. Non-human life has intrinsic value independent of any usefulness for human purposes.

ii. Rich, diverse life forms on Earth contribute to the flourishing of life on Earth, both human and non-human.

iii. Humans have no right to reduce this richness and diversity except to satisfy vital needs.

iv. Human interference with the non-human world is currently excessive, and is only getting worse.

v. A decrease in the human population is essential for the flourishing of human and non-human life.

vi. Policies must be changed in order to make significant changes of life conditions for the better. These affect basic economic, technological, and ideological structures.

vii. The ideological change is mainly that of appreciating life quality rather than adhering to a high standard of living. There will be a profound awareness of the difference between big and great.

viii. Those who subscribe to the previous points have an obligation directly or indirectly to participate in the attempt to implement the necessary changes (Naess, 1989, Naess, 1973).

Despite their having different theoretical bases, in the long run it is possible and necessary for environmental morals to converge so as to establish an ethics with the harmonious development of humans and nature as its moral aim. Since they all agree that it is necessary to extend the human moral sense, that is, to extend the status of moral object from humans and society to all other living beings and nature, it is possible to establish a universal environmental ethics by combining their reasonable ideas.

7.4. The Intrinsic Value: Final or Non Instrumental Value

In every environmental ethics philosophy the ***intrinsic value*** of nature is appreciated. Generally this refers to the value that an object has that is independent of its value as a utility, and which is unrelated to the interests or preferences of human beings. Another term for value construed in this way is ***final value***, or the value a thing or being has for its own sake. Intrinsic value in the sense of final value is revealed when the reasons we give for considering a thing, x, as valuable do not refer to anything other than x itself. This account, therefore, is contrasted with ***instrumental value***, which is the value x has, not for its own sake, but for the sake of some other object, perhaps something valued intrinsically. Instrumental values are related to each other and to intrinsic ones; for instance, we might value our job, not for its own sake, but for the money that it brings, and again, we probably value that money for the sake of the things or services we purchase with it, for the sake of financial security, and so forth.

To say that something has intrinsic or non-instrumental value seems to suggests, then, that nothing else could have exactly the same value; this seems to be a second implication of being valued for itself, in addition to the suggestion that there is no further reason for valuing it. Intrinsic value does not derive from any utility to humans or other living beings and is independent, in this sense, of the interests of humans and all other beings. So there are two implications of intrinsic value which need to be distinguished; there is, first, the value that something has for its own sake, and second, the value it has interdependently of human interests. Clearly, these two are intimately related. If I value a turtle or a beach for their own sake, then I do not value them for the sake of the money I could make from selling the turtle‘s shell on the black market, nor do I value the beach merely for the wellbeing that I enjoy on it. Again, to value a human being as an

end value, means to value him or her independently of any use she or he could be to me. In this sense, then, intrinsic value is independent of human interests.

It is important to note, as Jane Howarth says, that the capacity to fulfil an ecological function is in fact an instrumental value, and not an intrinsic one, and that anything else that could serve that purpose would consequently have the same value. For a thing x to have intrinsic value in the sense of non-instrumental value, then x cannot be replaceable (Howarth 2000, 162). This seems to be a minimum requirement if x is to be valued for its own sake. One might add that it is also independent of the interests of all other beings.

7.5. Criticism of Intrinsic Value

Author Karen Green argues that this non-relational interpretation of intrinsic value is not the sense that environmentalists have in mind. (Green 1996, 35) shows that environmental values have everything to do with the relations between living beings and other natural entities. As an example, she mentions the cane toad, which, as a living being, one might claim, is intrinsically valuable. At least, this seems to be the case when the toad exists in its natural habitat, where it forms part of a healthy, balanced ecosystem. In Australia, however, where it is causing havoc to the native species and habitat, it is held to have negative value (in Green‘s words - positive disvalue). This shows, then, that the toad‘s value is actually instrumental, since the toad‘s presence is not valued in itself. What is valued intrinsically by environmentalists, according to Green‘s account, are properties such as rarity, uniqueness, diversity, and stability. These, as we can see from the case of the toad, are all dependent upon a natural being‘s circumstances; its relations with other beings, with inorganic matter, the surrounding environment, and so forth. If intrinsic value is taken to be non-relational, then rarity, diversity, and all these other environmental values cannot be intrinsic values. Green takes this as a decisive refutation of the claim that environmental intrinsic values are non-relational ones (Green 1996, 35).

7.6. Social Ecology's Criticism on Deep Ecology

Social ecology movement founded by Murray Bookchin says that the foundations of the environmental crisis lie in the dominant ideology of modern western societies. Thus, just as with deep ecology, social ecology claims that in order to resolve the crisis, a radical overhaul of this ideology is necessary. However, the new ideology that social ecology proposes is **not concerned** with the "self-realization" of deep ecology, but instead the absence of domination. Indeed, domination is the key theme in the writings of Murray Bookchin, the most prominent social ecologist (Bookchin, 1987, 1-22).

For Bookchin, environmental problems are directly related to social problems. In particular, Bookchin claims that the hierarchies of power prevalent within modern societies have fostered a hierarchical relationship between humans and the natural world (Bookchin, 1982). Indeed, it is the ideology of the free market that has facilitated such hierarchies, reducing both human beings and the natural world to mere commodities. Bookchin argues that the liberation of both humans and nature are actually dependent on one another. Thus his argument is quite different from Marxist thought, in which man's freedom is dependent on the complete domination of the natural world through technology. For Bookchin and other social ecologists, this Marxist thinking involves the same fragmentation of humans from nature that is prevalent in capitalist ideology. Instead, it is argued that humans must recognize that they are part of nature, not distinct or separate from it. In turn then, human societies and human relations with nature can be informed by the non-hierarchical relations found within the natural world. For example, Bookchin points out that within an ecosystem, there is no species more important than another, instead relationships are mutualistic and

interrelated. This interdependence and lack of hierarchy in nature, it is claimed, provides a blueprint for a non-hierarchical human society (Bookchin, 1987, 1-22).

Specifically, two major critiques have emerged from social ecology at deep ecology. First, social ecology has accused deep ecology of being misanthropic, failing to acknowledge the unique contributions that human beings have made and can make in the formation of more ethical socio political societies and more ethical environmental policies. Moreover, social ecology has contended that the anthropocentric/ecocentric divide (division?) promoted by deep ecology is all but useless in pinpointing the major causes of ecological degradation and, in turn, human suffering and only serves to further alienate humans from nature (Bookchin, 1987, 19).

Secondly, social ecology promotes a very different version of the way that human beings relate to nature, critiquing deep ecology's emphasis on an ontological holism that promotes interconnectedness and wider identification (Bookchin, 1990, 114-16). These two critiques serve to suppress the promise that deep ecology makes toward the formation of ecocentric societies based on a wider identification with nature and more ethical political arrangements and practices, proposing a vastly different set of critiques of contemporary society and a vastly different conception of how humans relate to nature. Consequently, the critiques from social ecology cannot remain under appreciated or inadequately addressed by deep ecology.

Equally important is deep ecology's failure at becoming a theory of social exclusivity that promotes global participation in the development of ecocentric societies. Given this failure, it is equally essential that the largely absent Global South be addressed for the role that it can play in the formation of ecocentric societies and for the critiques that have emerged regarding the absence of this entire region of the globe from deep ecology. These critiques regarding the Global South are less numerous than

those from social ecology, but they are just as important in that they too prevent deep ecology from becoming a leading theory of radical ecopolitical thought. Rethinking deep ecology involves not only addressing these critiques, but intentionally incorporating concerns from the Global South into the theory while at the same time avoiding colonial discourses that only serve to “other” regions of the globe. Deep ecology, therefore, must address these critiques as well in pursuit of its rightful position in radical ecopolitical thought.

Two major critiques emerge from those concerned with the Global South. These charges include the following: 1). Deep ecology promotes neo-colonialist and imperialist policies that reflect western ideals such as wilderness preservation in addition to appropriating other cultures for the purposes of promoting its theory (Guha,1998, pp. 271-79). 2). Deep ecology fails to become a theory of inclusivity that accounts for differences across cultures and that explicitly promotes democratic arrangements along with dismantling current structures of power that conceptually exclude entire populations in the Global South from decision making processes regarding the environment, especially at the local level.

7.7. Conclusion

As we read in this chapter, Environmental Ethics is a new approach to save the environment, which is at its conception. I see that there are practical challenges in applying ecocentric and biocentric knowledge (out of the bat) to the present global situation (especially to Climate Change and global pollution). Environmental ethics have completely forgotten that some small countries from Global South still hold biocentrist values, but due to the economic pressure created by global capitalism consumer lifestyle they are finding themselves fighting against poverty alongside Climate Change. Nevertheless, environmental ethics movement has taken a major step towards finding a new environmental ethics for the World. What fails is a mythology that is socially and globally applicable. My attempt in the next chapter is to formulate a Climate Ethics based on ancient religious knowledge and modern environmental ethics viewpoints.

8. BRIDGING THE GAPS

"Let your love flow outward through the universe, To its height, its depth, its broad extent, A limitless love, without hatred or enmity.

Then as you stand or walk, Sit or lie down, As long as you are awake,

Strive for this with a one-pointed mind; Your life will bring heaven to earth."

-The Buddha: *Sutta Nipata*

This chapter focuses on how religious knowledge can be used to bridge the gaps environmental ethics philosophy has, so that it is a human friendly ethics, as well. In this chapter I will adapt the knowledge of the Buddhism to enhance the bio-centric and ecocentric ethics for it to become a practical ethic that is manageable and applicable to the present climate and environmental problems.

8.1. Buddhist View on Intrinsic Value of Life

As a religion Buddhism is not an environmental religion, but it is a religion that is friendly to all sentient beings. The core teachings of Buddhism focus on methods of overcoming permanently the mundane suffering faced by all sentient beings. In other words, Buddhism is focused on finding the unconditional permanent happiness (which is the permanent end to all suffering, *Nirvana*). So, I would like to coin a new word to define the approach of Buddhism as "Sentient-happiness-centrism". Unconditional means happiness that arises without a "happiness making cause".

Buddhist considers the natural world, non-natural world and every other world, as a part of the "universal ecosystem" know as the *Samsara.* The inhabitants of the universal ecosystem (*Samara)* are known as "sentient beings", they are namely, human,

animal, plants, and other celestial non-human beings (who are invisible to the biological eye).

In Buddhism the Final Value of a sentient being is called the “Buddha Nature” (*Thathagatha Garba*) which means, the value of a sentient life is merely valued for its proximity to its future enlightened state, and it is not any particular form of life or even any individual living creature that is valued as such, but always potential that everyone carrys in them to become a future Buddha, which is very different from the intrinsic value appreciated by ecocentrism and biocentrism.

This is a far cry from the way environmentalists think of natural beings, and certainly not what we mean when we say that people and other creatures are morally considerable and valuable. For environmentalists, it is this person, animal, or species that is valued, and not a future, improved state of them. But as we saw the present environmental ethics do not have the power to lift up the society from the present crisis nor can it operate without insulting and devaluating the humanness.

Buddhism does not see any *ultimate value* (*Paramartha*) in any being as ecocentric ethics do. Buddhism says Buddha Nature has the final value, and the rest has only a relative value. Buddhism acknowledges that each living being has a *conventional aspect (Samruti)* and *ultimate aspect* (*Paramartha*). Therefore all living beings are considered unique as well as intrinsic (all natural, extraterrestrial and celestial phenomena), but the only difference is that this intrinsic value is never considered a Final Value.

Why are conventional aspects of being not a final value? Buddhism believes that since all *conventional phenomena* are karma interdependent, are always eternally changing its composition (Impermanence, *Anicca*) and therefore lack a permanent

essential true core due to this impermanence nature (Non Self, *Anatta*), and since a core essence is absent they tend to create dissatisfaction and unhappiness in everyone who grasps at them as a true cause of happiness (Suffering, *Dukka).*

Therefore, all conventional phenomena are seen as having an illusory nature. What does illusory mean? It means like a dream, or an illusion (though it is entertaining it is empty), so what is illusory in nature cannot be taken seriously (in a metaphysical sense) so all *conventional phenomena* are said to be lacking a true inherent existence (Empty, *Sunnya*). With this meaning as the back ground I would like to say, Buddhism does not recognize any final intrinsic value in the natural world as other environmental ethics do.

8.2. Finding the Middle Way through Various "Centrism"

Buddhism is neither human-centred nor eco-centred religion. It is a wisdom-centred one, it is an intelligence-centred religion. What is refuted in Buddhism is not human-centeredness, but ego-centeredness. One's self cherishing ego is viewed as the true cause of all unhappiness (internal and external). I believe the focus of other environmental ethics, animal rights movement and environmentalism is generally narrow and limited to a personal point of view. These philosophies always have a tendency to divide between humans and animals etc. They tend to make conflicts among environmental groups; they tend to produce debates, not actions.

But the core difference to Buddhism is that it brings everyone together to become happy. In its approach Buddhism has an altruistic one, to support every sentient being (including humans) to realise their own natural wisdom, wellbeing and happiness. Since everyone, as their final aim, wants to be happy Buddhism believes every effort one makes to discovering ones final true value leads towards true happiness (short term and long term). Each sentient being that discovers the marvel of its own wisdom and intelligence is bound to naturally (as cause and effect) arrive at its true potential and end in a less-suffering, ultimately happy state known as Nirvana.

As deep ecology and other philosophies believe all beings are connected in a deeper level, Buddhism also believes that in this universal ecosystem (*Samsara)* we are all bound to each other not only by one means, but on many levels. We are bound as biological family, or species, we are connected as a universal ecosystem (*Samsara*), we are connected through cause and effect (*Hetu phala*), we are for ever bound to each other by our own action (*Karma Vipaka)*, and we are all bound on a deeper level by our collective consciousness (*Vignaana Dhatu*).

In Buddhist Abhidamma teachings it is said that Nirvana all beings are said to be bound to one taste *(Sunnya),* without separation *(Animitta*), without any imperfections (*Appanihita),* as all river waters end in the great ocean and become one taste and one entity, inseparable from each other (Hoiberg, Dale H., ed. 2010).

The methodology of Sentient Being Liberation (as opposed to animal liberationist theory) in Buddhism is more humanistic than animalistic. All environmental ethics movements seem to have taken a non-anthropocentric point of view, because I believe the western world needs a revolutionary idea that eases its egocentric and anthropocentric ways of living. But I believe in order to make changes in the world we should (and must) use our virtuous human qualities, moral human behaviours, and wise human intelligence in an anthropocentric manner to benefit other sentient beings. What we need to give up is the self-cherishing mentality (ego-centeredness). Therefore I would say, Buddhism is an ego-free anthropocentric ethic, with regards to human beings as agents of care and nurture, and Buddhism has a non-anthropocentric ethic as well because it values all beings as equal. It is the union of these two extreme views.

How do we unite these two views in to a middle way? Practically, the Buddhist practice of generating loving-kindness (Maitrī; Pāli mettā) and compassion (Karuṇā) towards all sentient beings is recommended as the preliminary essential practice for bringing a change to the social and environmental problems. Buddhaghosa, the fifth-century commentator on the Pāli Canon, characterizes loving kindness as ”devotion to the aspect of [others‘] welfare”, and claims, ”It has the function of offering welfare” (Vism. ix.93; cited in Aronson 1980, 63). Similarly, compassion is concerned with removing the suffering of others, and ”has the function of not enduring others‘ suffering” (Vism. ix.94; Aronson 1980, 63).

To value a being, in Buddhism, it can be described in terms of love and compassion; they are intentional acts which involve an attitude adopted towards a being, for the sake of benefiting that being (benefit can be temporary or ultimate), and these wishes of benefiting has no other attached intensions towards oneself. This love and kindness is **independent of any intrinsic properties and values** that being might have as well. We are not admiring a being, we are universally creating the emotion of altruism. The act itself loosens up the ego-centeredness and in the long run the loosened ego-centeredness makes a person more relaxed about all Samsaric phenomena. We are happy because others, as well as we, are happy and we are slowly developing ourselves in to our ultimate value (as a caterpillar is developing to a butterfly). This again contrasts the way animal liberationist or bio-centrist love nature.

Deep ecology is criticised for being an impractical, social insensitive, Global South deductive ethic. For a Buddhist love and valuing does not mean caring for the supporting party and partially hating the opposing party. This altruistic empathy towards all feeling persons and beings naturally will create more environmentally aware citizens. This ego-free altruistic love will make Climate Change Agreements easy and emission cut downs easy to practice. Loving kindness and compassion will alleviate the inequality and poverty of the world.

Buddhist ethical behaviour practices, known as moral discipline vows (*Sila)* is a spiritual practice by itself. People willingly take these discipline vows upon themselves, because firstly these practices spiritually cleanse their consciousness negative habits and non-virtuous imprints, secondly they benefit to the society and nature through its disciplinary aspect, thirdly it acts as a direct method and means to reach the Nirvana that lies within oneself. Buddhism teaches that immoral conducts not only harm the outsiders, but also oneself. Each act (with body, speech and mind) one conducts is said

to create a spiritual force called *Karma*. The more moral and virtuous the acts are, the more positive and benefiting *Karma* force is created to oneself and to others. And the more negative and ill benefiting the acts are, the more negative and harmful the created *Karma* force will be to oneself and others. Karma is said to be creator of all what we have experienced, are experiencing and will experience (in Buddhism Karma is the creator of all conventional phenomena, not GOD).

8.3. Ethics, Action and Karma

Why are Buddhists careful about their actions? According to the Buddha being ethical and Being happy have cause and effect relation with each other. Essentially Buddhist believes **biggest obstacle** between a sentient being and its true happiness is said to be *negative Karma* (from one's own past actions). Since everyone wants to be happy and we all want others to be happy, therefore it is a natural obligation to avoid harmful actions towards oneself and others. In this sense the world needs a "Sentient being Happiness Centrism" ethic to improve the human and environmental problems.

I believe the Buddhist ethics can immensely improve the present environmental ethics into a global developmental ethic. In Chapter 10, I have presented a case study of how a Sri Lankan Buddhist developmental organisation uses Buddhist ethics in their developmental work in a third world scenario.

9. COMMUNICATING ENVIRONMENTALISM

"The absence of certain concepts indicates very often not only the absence of certain points of view, but also the absence of a definite drive to come to grips with certain life problems."

- Karl Mannheim

9.1. Introduction to the Case Studies

The following three case studies that I am about to present will demonstrate a working example of how human development, education and knowledge can be approached in a holistic manner. The first two case studies are about alternative approaches to education. The fundamental ethic the two education institutes are focusing on is essentially the same, which is "how a human beings should be educated intellectually, emotionally and spiritually". Although both institutes have adapted unique ways of achieving this goal. Never the less their mythologies have proven to be successful in creating pro-environmental behaviours in students. When most of the world's universities and schools are interested in building up well educated and knowledgeable scholars, such institutes are interested in building up a useful human being who cares for the world that he/ she lives in and can adapt to new situations. Such humanistic and holistic education makes sure all their student body receive a diverse set of life skills, other than their academics, before they graduate. An essential goal of Warren Wilson College (University) and Waldorf Schools are to develop good environmental citizens who recognize and perform their duties and responsibilities as members of the larger human and ecological communities in which they live. These case studies also suggest the readers a new applicable mythology for pro-

environmental behaviour. In essence they demonstrate the final value of the theories and philosophies we discussed in the earlier chapters.

9.2. Case Study 1: Warren Wilson College

9.2.1. Introduction

Warren Wilson College (WWC) is located in the Swannanoa River Valley of the Blue Ridge Mountains. The campus consists of 1,130 acres situated on the outskirts of Asheville, western North Carolina's historical, cultural, and creative centre. The campus features 25 miles of trails winding through forest, farms and gardens. The campus includes housing for 900 students and for many faculty, staff and their families. Students can choose from more than 20 majors, several dozen minors, and honours and pre-professional programs. Although the college has remained primarily an undergraduate institution, in 1981 it added a graduate program, the MFA Program for writers that has become nationally acclaimed with many award-winning faculty members and alumni. Along with residence halls, the central campus comprises classrooms, laboratories, studios, faculty offices, administrative offices, dining facilities, the library, and a student centre. The college was founded by Presbyterians in 1894 and maintains a covenant relationship with the Presbyterian Church (USA). The roots of this historic relationship continue to nurture the college's commitment to community, social responsibility, the value of work, and openness in the pursuit of truth. The college provides a strong sense of purpose, place, and participation, and supports diversity, community, and personal development.

9.2.2. The History

Warren Wilson College began as the Asheville Farm School in 1894. The school was founded by the women's home missions' board of the Presbyterian Church, in order to give mountain boys vocational training and classroom study. Initially the school enrolled 25 students in grades one through three. Higher grades were added as

enrolment increased, and in 1923 the first high school class was graduated. In 1942 the Asheville Farm School and Dorland-Bell School for girls in Hot Springs, N.C., merged to become the coeducational Warren H. Wilson Vocational Junior College and Associated Schools. The expanded institution in the Swannanoa Valley was named after the late superintendent of the Presbyterian Church's Department of Church and Country Life. After graduating its final high school class in 1957, Warren Wilson remained a junior college until 1967, when it became a senior liberal arts college, offering a bachelor's degree. The first seniors in the four-year program were graduated in 1969. Four years later, the college officially separated from the Presbyterian Board of National Missions and became an independent college guided by a board of trustees (WWC 2013).

An international and cross-cultural emphasis is a major part of the history and heritage of the college. Faculty, staff and administrators have sought to advance intercultural understanding since the 1920s, when Cuban students enrolled in the Asheville Farm School. The college admitted a boy in 1939 whose parents had fled Nazi Germany, and perhaps even more remarkably, enrolled two Japanese-American students in 1942, after the Pearl Harbor attack. Today the college enrols students from many nations, and through its international program offers all students study, internship, and service opportunities across the globe. Set within one of the most biodiverse regions in North America, Warren Wilson has an environmental ethic anchored in the early history of its land and promised in its mission. Students, faculty and staff honour these traditions and, through the college's triad, apply formal commitments to sustainability in their work, service, and academics. Warren Wilson was one of the first institutions in USA, in the 1970s, to pioneer an environmental studies major (WWC 2013).

9.2.3.Mission of Warren Wilson College

The Mission of Warren Wilson College is to provide an education combining liberal arts study, work, and service (triad) with a strong commitment to environmental responsibility and experiential opportunities for international and cross-cultural understanding in a setting that promotes wisdom, spiritual growth, and contribution to the common good. Initiatives of the college are grounded in a commitment to the following core values:

i. The Triad: Academics, work and service

ii. Community: Civic engagement and participatory governance

iii. Liberal Arts: Experiential and innovative education

iv. Sustainability: Environmental responsibility, social and economic justice

v. Diversity: Inclusivity, international and cross-cultural understanding

vi. Wellness: Personal growth and well-being

9.2.4.The Unique Educational Triad

The college's educational program, the triad, consists of three interwoven strands of experience: liberal arts, academic study, a campus-wide work program, and service learning. Grounded in principles of sustainability and guided by core values of diversity, community and cross-cultural understanding, Warren Wilson's work and service-based programs deepen each student's engagement in academic learning and in personal growth and well-being (WWC 2013).

i. The Triad: Academics

The college has a strong Liberal Arts Curriculum, practical applications. Warren Wilson's curriculum challenges students while creating a foundation for lifelong learning. The academic program teaches students to think critically, evaluate information effectively, and communicate clearly while providing opportunities to make connections between the classroom and hands-on experiences. The college's liberal arts focus encourages students to explore various fields of study before choosing from over 20 majors, including traditional arts and science disciplines, pre-professional studies, and interdisciplinary programs. During the first two years of the university students get to explore a wide range of possibilities and interests before deciding their major. The four-term calendar allows concentration in fewer subjects at one time, with smaller class sizes and ample opportunity for independent study, internships, and other field work. The academic program

- enables students to think critically, obtain and evaluate information effectively, and communicate clearly;
- introduces students to a variety of ways by which humans acquire and use knowledge;
- provides students with opportunities to develop a breadth of understanding and to make connections among areas considered critical to a liberal arts curriculum;
- requires that students demonstrate a depth of understanding through competence in one or more academic disciplines;
- furnishes students with opportunities to understand and appreciate a variety of cultures;
- assists students in developing awareness of the environment, the commonality of human problems and the diversity of the world;

- leads students into considered reflection on the meaning and value of work and service to others
- guides students in examining their lives and articulating their beliefs and values.

ii. The Triad: Work

The work program has been fundamental to the college since its founding in 1894. Students work 15 hours per week on one of over 100 work crews responsible for the daily functioning of the campus and essential operations of the college. The whole university is run by a majority of student workforce, academic faculty and few non student staff. Through the work program, students take ownership of their college community while developing respect for the value of work. The work program builds confidence while advancing skills in problem solving, organization, and communication. Students learn extra skills than what they learn in the class, and work build team work, self-confidence and bring the students close to the realities of life. The money earned from the weekly 15 hours of work contributes to the fees of the student. At work, students build specific skills that reinforce their classroom experiences and see academic theories come to life.

iii. The Triad: Service

Service has always been a core value of the college and a graduation requirement for nearly 50 years. The mission of Warren Wilson College includes preparing students for service, leadership, and meaningful lifelong work and learning. As part of this triad educational program, completion of a Community Engagement Commitment is one of the requirements for graduation. Students meet the commitment by progressing through four different Points of Engagement and Growth (PEGS):

- Self-knowledge

- Understanding of complex issues
- Capacity for leadership
- Commitment to community engagement

Each student has to complete 100 hours of voluntarily community work during the four year period. The purpose of the service program is to bring the students in touch with their morals and social ethics, and to remind them that the heart is equally important as the growth of the knowledge. Service integrates experiential, real-world activities into the college's academic offerings and work crew experiences with projects that facilitate the development of problem solving and analytical skills. Students serve in the local community, across the country, or internationally as part of a study abroad experience. Through service, students engage in issue education through workshops, alternative fall/spring break service trips, and weekly projects integrated with first-year seminars. Each student’s progress is also reviewed in the second semester of the sophomore year and the first semester of the senior year.

9.2.5.How Warren Wilson Differs from Other Institutes

Drawing from its core values, the college accomplishes its mission through an enduring commitment to the following objectives:

- **To practice an integrated triad of academic study, productive work, and meaningful service**

As mentioned above the school’s main focus is building a complete human, with respect to knowledge, morals and spirituality. The education methods are only one third classroom based, and rest are experiential and practical. In a standard education system there is a tendency for the academically bright students with higher IQ to

progress further and faster. But in modern education not only the IQ (*Intelligence Quotient*) of a student but also the EQ (*Emotional Quotient)* and SQ (*Spiritual Quotient')* is a measurement of intelligence. The traditional educational system and its institutions still very much focus on the higher IQ and neglect the EQ and SQ as inferior. Warren Wilson is a good and a rare example of a University that supports the growth of EQ, SQ and the IQ of human beings. Such methods of holistic education are derived from older methods used by many traditional cultures such as Native Americans, Egyptians and Asians.

- **To prepare students for service, leadership, and meaningful lifelong work and learning**

Another unique quality in the Warren Wilson education system is that the whole campus is designed to help each student to discover their own hidden potentials. The academic staff and their close relationship help the students in the first two years to gain self-confidence through self-exploration. And finally each person is a leader in their own field of interest and passion; this gives a meaning to life and life's goals. The college academics achieve the above mission in the following ways:

i. It enables students to think critically, obtain and evaluate information effectively, and communicate clearly through personal teacher students review sessions, and pear groups discussions and group assignments;

ii. It introduces students to a variety of ways that humans acquire and use knowledge through reading, research, internships, work, self-contemplation and mediation;

iii. It provides students with opportunities to develop a breadth of understanding and to make connections among areas critical to a liberal arts curriculum through providing a

mixture of courses of natural science, humanities, arts, social sciences etc. in the first two years;

iv. It requires that students demonstrate a depth of understanding through competence in one or more academic disciplines;

v. It leads students into considered reflection on the meaning and value of work and service to others through completing 100 hours of social work;

vi. It engages students in triad activities that deepen their understanding about the environmental, economic and community bases of sustainability;

vii. It guides students in examining their lives and articulating their beliefs and values, through creative and contemplative course assignments, and field research assignments;

viii. It provides opportunities for personal, physical, moral and spiritual development through the weekly religious, spiritual wellness development programs;

ix. It imparts an awareness of the commonality of human problems while encouraging the development of civic engagement and a sense of social justice, through activities of the student governing body and nurturing, through responsible and resourceful management policies, a small, residential community where students, faculty, staff, and governing board share close, mutually supportive, personal relationships and collaborate in college governance;

x. It offers educational opportunities for students to better appreciate the diversity of the world and to develop cross-cultural and international understanding, through the international world-wide global studies program. The college also supports and promotes a diverse international student body and a religious diversity.

- **To promote environmental responsibility in students through education, campus operations, policy, and community outreach**

Environmental and social responsibility is the core value behind all initiatives of the Warren Wilson College. The WWC community recognizes a commitment to sustainable or “green” living as an obligation to act responsibly to positively affect the planet’s health and longevity.

At Warren Wilson, the triad of academics, work, and service immerses students in community problem solving. They study the human and ecological history of this planet and understand the need for global citizens to adopt a more informed process of decision making than ever before. Students engage in community-based research and learn that complex issues like unemployment and affordable housing require a cross-disciplinary approach to problem solving. They participate in work crews, ranging from dining services to landscaping, and help the college earn the distinction of being a “living laboratory” of sustainability. Students expect us to make sustainable choices and often serve as ardent champions of best practices. Through service they experience, first hand, the importance of their participation in solving chronic community issues. Whether working with literacy programs or disaster relief efforts, students come to understand that these problems are complex. Sustainability deepens their conversation about community well-being and provides valuable insight into the root cause of some of our most pressing issues.

9.2.6.Conclusion

Warren Wilson College (WWC) provides a good example of how a modern higher educational institute has taken the modern Environmental ethics and traditional knowledge to its working and application level. Their education mythology is relevant to the present environmental problems because Warren Wilson College has

1. Focus on building the complete human beings through an education that takes into consideration all aspects of life.
2. An education that tries to use the complete human brain capacity and consciousness potential.

The school educates for environmentally responsible citizenship by establishing study programs to produce expertise in environmental management, sustainable economic development, population, and related fields to ensure that all graduates are environmentally literate and ecologically responsible citizens. This case study not only demonstrates the direct application of mythology of Sociology of Knowledge in to education, but also gives us an example of a non-violent Climate Change social revolution.

9.3. Case Study 2: Waldorf Education

As the second case study I find Waldorf education method to be a relevant example of applying Sociology of Knowledge to the Sociology of Education. But Waldorf method is one of the oldest utopian education movements of the past century. It was developed after the First World War as an alternative to the conventional education of that time. I find that Waldorf method is equally relevant to the present time period.

9.3.1. The Waldorf Philosophy

Waldorf education is a vital, living approach to learning, rooted in a long tradition of honouring the stages of childhood. Founded in 1919 by the Austrian philosopher, scientist and artist, Rudolf Steiner, Waldorf education has grown into a worldwide movement with over 1,000 independent schools in 87 countries. The faculty of any Waldorf school holds ultimate responsibility for the curriculum and school governance. As a result, every Waldorf school is uniquely shaped by the particular needs of its children, community and teachers (Vasagard 2012, Ogeltree 1979).

Fundamental to all Waldorf schools, however, is the recognition that each human being is a unique individual who passes through distinct life stages and it is the responsibility of education to address the physical, intellectual, social, emotional and spiritual needs of each developmental stage. The curriculum is designed to naturally complement these stages. In kindergarten, learning is experiential, with a focus on storytelling, songs, outdoor play, and free play with natural toys. As students enter the lower grades and begin to learn traditional subjects such as language arts and mathematics, the teaching methods rely on the concrete, hands-on techniques appropriate for younger children. In the upper grades, as students begin to develop

individuality and critical thinking skills, the curriculum shifts again while building on the skills laid down in the early years (Ogeltree 1979.)

9.3.2.Waldorf Curriculum

The Waldorf curriculum is broad and comprehensive, structured to respond to the three developmental phases of childhood: from birth to approximately 6 or 7 years, from 7 to 14 years and from 14 to 18 years. Rudolf Steiner stressed to teachers that the best way to provide meaningful support for the child is to comprehend these phases fully and to bring "age appropriate" content to the children that nourishes healthy growth. 1) individualism, 2) freedom and 3) free thinking are key characteristics of Waldorf education. The basic philosophical tenants of the Waldorf schools include ((Vasagard 2012):

A. How do we establish within each child his or her own high level of academic excellence?

Teachers recognize each child as an incarnated individual with his/her selfhood, with a past and future destiny, which must be nurtured and protected. The goal is to support his/her individuality. Teachers guide the children in to the world. The teaching methodology draws out the inherent talents and abilities in the children (Ogeltree 1979, Waite & Rees 2011).

B. How do we call forth enthusiasm for learning and work, a healthy self-awareness, interest and concern for fellow human beings, and a respect for the World?

Teachers allow the child to develop in freedom, by nurturing the child's development with a curriculum and methods that are compatible with the child's stages

of development. No forced or intellectual or indoctrinated learning is used. The child learns via experiences and activities that are compatible with his/her developmental stages of learning - to develop and maintain the energy forces. They help the child to attain its destiny and to be open to the spiritual world and away from materialistic thinking. However, there is no intent at indoctrination of the students (Waite & Rees 2011).

C. How can we help pupils find meaning in their lives?

Thinking is allowed to develop naturally, again via a curriculum and teaching methods compatible with the stages of child development. There is no pouring of information into the child - pressure to read prematurely and operate computers is not a part of the Waldorf curriculum. Premature intellectualism is out; conceptual teaching is out. Art, music and rhythm are employed to enhance the health and natural development of the child's cognitive development. For example, imitation, artistic and physical activities are the methods of teaching employed in the lower grades. In the middle grades children are taught through their feelings, via imagery, pictorial thinking, art, motor activity and eurhythmy. Learning via experience is in. Formal reading is delayed to the third grade. The energy (developmental) forces are used for the child's physical development and reserved for full development of thinking at the age of puberty - formal operational level of thinking (Waite & Rees 2011).

9.3.3.Waldorf Developmental Stages of the Student

During the first developmental stage (under 7 years old), children primarily learn through empathy, imitating their environment, and Waldorf pre-schools and kindergartens therefore stimulate pupils' desire to engage with the world by offering a range of practical activities. The educator's task is to present worthwhile models of

action. Children are also given daily opportunities for creative, imaginative play. The early years education seeks to imbue the child with a sense that the world is good (Heiner 2008).

In the second stage, between ages 7–14, children primarily learn through presentations and activities appealing to their feelings and imagination. Story-telling and artistic work are used to convey and depict academic content so students can connect more deeply with the subject matter. The educator's task is to present a role model children will naturally want to follow, gaining authority through fostering rapport. The elementary year's education seeks to imbue children with a sense that the world is beautiful (Ullrich & Heiner 2008).

In the third developmental stage (14 and up), children primarily learn through their own thinking and judgment. They are asked to understand abstract material and are expected to have sufficient foundation and maturity to form conclusions using their own judgment. The secondary year's education seeks to imbue children with a sense that the world is true (Heiner 2008).

Teachers in Waldorf schools are dedicated to generating an inner enthusiasm for learning within every child. They achieve this in a variety of ways. Even seemingly dry and academic subjects are presented in a pictorial and dynamic manner. This eliminates the need for competitive testing, academic placement, and behaviouristic rewards to motivate learning. It allows motivation to arise from within and helps engender the capacity for joyful lifelong learning. Waldorf teachers receive specialized training in Waldorf philosophy and methodology at a number of training institutes and typically follow the same class through all eight years of school. The relationship of the teacher with his or her class becomes so deeply founded that the teacher, through

development of powers of observation, knows in any given moment what is needed for any particular child and the class as a whole (Waite & Rees 2011).

9.3.4.Survey about the Efficiency of the Waldorf Education

An international survey study was the first done to examine the Waldorf School movement worldwide and focused on the teaching practices, curricula, educational outcomes, and positive program features of Waldorf schools, as well as problems encountered by Waldorf staff. The role of Rudolf Steiner's philosophy, anthroposophy, and its esoteric aspects were examined in relation to its teaching processes and its influence on students. Data were collected by means of surveys of 520 Waldorf schools in 31 countries. The response rate was 45 percent. Findings indicated that 57 percent of respondents felt that the goal of Waldorf education was to change society. Seventy-four percent thought that teachers' knowledge and implementation of Steiner's educational ideas and methods were good. Over eighty percent of respondents indicated that their school program included the following practices: balanced school day, a continuous teacher from grades 1 to 8, student-written and illustrated notebooks, meditation/prayer at the beginning of the day, form drawing in grades 1 to 5, and teaching of main lesson. Sixty-three percent described the working climate as democratic, and sixty seven percent reported that faculty morale was good. Over eighty percent thought that a Waldorf education was compatible with the times. About ninety percent thought a Waldorf education developed free thinking individuals. Seventy percent thought that Waldorf education influenced students to be open to the spiritual world and Anthroposophy. Almost half the schools were founded by parents. Major issues

identified as affecting at least forty percent of the respondents' schools included financial support, school location, and student discipline problems.

Another major quantitative and qualitative study of senior secondary students in the three largest Steiner schools in Australia was undertaken by Jennifer Gidley in the mid-1990s. It investigated the Steiner-educated students' views and visions of the future, replicating a major study with a large cross-section of mainstream and other private school students undertaken a few years prior. The findings as summarised below contrasted markedly in some areas with the research from mainstream students at the time (Gidley and Hampson 2005).

- Steiner-educated students were able to develop richer, more detailed images of their 'preferred futures' than mainstream students.
- About three-quarters were able to envision positive changes in both the environment and human development; almost two-thirds were able to imagine positive changes in the socio-economic area;
- They tended to focus on 'social' rather than 'technological' ways of solving problems;
- In envisioning futures without war, their visions primarily related to improvements in human relationships and communication through dialogue and conflict resolution rather than a 'passive peace' image;
- 75% had many ideas on what aspects of human development (including their own) needed to be changed to enable the fulfilment of their aspirations. These included more activism, value changes, spirituality, future care and better education;
- In spite of identifying many of the same concerns as other students - global-scale environmental destruction, social injustice and threats of war - most of the Steiner

students seemed undaunted in terms of their own will to do something to create their 'preferred future';

- There were no gender differences found in the students' preferred futures visions or in the richness and fluidity of their creative images.

Education professors Heiner and Ullrich, who have written about Waldorf schools extensively since 1991, argues that the schools successfully foster dedication, openness, and a love for other human beings, for nature, and for the inanimate world (Ullrich & Heiner, 1994). Although studies about Waldorf education tend to be small-scale and vary in national context, a recent comprehensive review of the literature concluded there is evidence that Waldorf education encourages academic achievement as well as "creative, social and other capabilities important to the holistic growth of a person" (Wood et al 2005). For example, the 2009 PISA study found that, compared to state school students, European Waldorf students are significantly more capable in the sciences (Wood et al 2005). A smaller 2003 study of science education in American Waldorf schools found the scientific reasoning of Waldorf school pupils to be superior to that of non-Waldorf students, with the greatest gains in the later years of schooling.

Studies have also found differences in student engagement, creativity and general well-being. In comparison to state school pupils, European Waldorf students were shown to be significantly more enthusiastic about learning, to having more fun and being less bored in school, to view their school environment as pleasant and supportive, as well as a place where they are able to discover their personal academic strengths (Jiminez, 2012). The study also showed that more than twice as many Waldorf students report to having good relationships with teachers and that they report significantly fewer physical ailments such as headaches, stomach aches, and disrupted sleep (Jiminez, 2012). In 1996, a study of British and German third- through sixth-grade children found

that Waldorf students averaged higher scores on the Torrance Test of Creative Thinking Ability than state-school students. A study of artistic ability in British private and state schools found that Waldorf students achieved more accurate, detailed, and imaginative drawings than the comparison group (Cox and Rowland 2000). A study by Jennifer Gidley found that Waldorf students were able to develop richer and more detailed images, and that they had more positive views of the future (Gidley and Hampson 2005). A 2007 German study found that an above-average number of Waldorf students become teachers, doctors, engineers, scholars of the humanities and scientists (Jiminez, 2012).

9.3.5.Conclusion

I believe Waldorf institute is battling Climate Change at a day to day basis through their new educational approach. As we know, there are many philosophies, ideologies, and theories on alternative environmental ethical views, on “how to live environmentally friendly”. But it is rarely that we come across real 21 century schools that put these philosophies in to daily practice and further transmit the new knowledge to future generations. Their philosophy is “how to live environment conscious and mindful in every action.”

9.4. Case Study 3: Reducing the Ecological Footprint

On a global level there is today an increasingly urgent need for positive models which demonstrate a viable, sustainable human and planetary future. As we read before, as the world becomes more industrial and technological the developed nations are polluting the environment more than ever before. The immediate solution to the problem would be to 180 degree change in the way we think and way technology is used. I believe, if people have the brain to think of new technology, why not simply change the ethics of the heart and the brain will produce skilful ways to adapt to Climate Change. The third case study is about, how a modern community in the United Kingdom is using innovative technologies to reduce their ecological carbon footprint.

9.4.1.What Is the Beddington Zero Energy Development (BedZED)17?

Many lessons can be learned by one existing eco community, which has been designed with carbon neutrality in mind. The Beddington Zero Energy Development - also known as BedZED, is the first and largest green eco community in the UK. Its aim was to build an affordable, desirable and green place to live. In this article, we're looking at the BedZED development in more detail. BedZED is an eco community, consisting of 82 homes built on reclaimed land in Wallington, Surrey and was completed in 2002 (BedZED, 2015).

"The BedZED design concept was driven by the desire to create a net 'zero fossil energy development', one that will produce at least as much energy from renewable sources as it consumes. Only energy from renewable sources is used to meet the

[17] BedZED, (2015).Read full article on : http://www.bioregional.com/wp-content/uploads/2014/10/BedZED_seven_years_on.pdf

energy needs of the development. BedZED is therefore a carbon neutral development - resulting in no net addition of carbon dioxide to the atmosphere."

The BedZED development design meets very high environmental standards, with a strong emphasis on roof gardens, sunlight, solar energy, reduction of energy consumption, and waste water recycling. In terms of materials, BedZED is built from natural, recycled, or reclaimed materials. All the wood used is approved by the Forest Stewardship Council or comparable internationally recognized environmental organizations (BedZED, 2015).

Using passive solar techniques, houses arranged in south facing terraces to maximize heat gain from the sun. Each terrace is backed by north facing offices, where minimal solar gain reduces the tendency to overheat and the need for energy-hungry air conditioning. A centralized heat and power plant (CHP) provides hot water, which is distributed around the site via a district heating system of super-insulated pipes. Should residents or workers require a heating boost, each home or office has a domestic hot water tank that doubles as a radiator. The CHP plant at BedZED is powered by off-cuts from tree surgery waste that would otherwise go to landfill (BedZED, 2015).

9.4.2.What is an Ecological Footprint?

Ecological Footprinting (EF) is a means of measuring environmental impact. The results determine the amount of land that the population requires to provide their resources and absorb their wastes within the context of the Earth's biological capability to regenerate them. The footprint deals only with demands placed on the environment; it does not attempt to include the social or economic dimensions of sustainability (Moffatt, I. 2000, 32). The modelling was co-originated in the early

1990's by Professor William Rees and Dr. Mathis Wackernagel. It is now being used in many countries at national and local levels. Its application includes analysis of policy, benchmarking performance, education, and awareness raising and scenario development.

EF essentially accounts for the use of the planet's renewable resources. Non-renewable resources are accounted for only by their impact on, or use of renewable, bio-productive capacity. EF quantifies how much energy and raw materials are used, and how much solid, liquid and gaseous waste is generated, and then converts this into a measure of land area, gha (global hectares), required to produce all those resources and absorb all the waste that is produced. To make the land measurement easier to visualize; 1 hectare is equivalent to 2.5 acres and 1 acre is the size of a football pitch. It has been calculated that a sustainable area of land for each person to exist on is around 1.8 global hectares (gha) (Loh *et al* 2000). Current research figures however indicate that each person in the UK uses 5.4 gha (WWF 2006), which would require an additional 2 planets to sustain the current world population. This suggests that humanity is using more natural resources than can be sustained in the long term.

9.4.3. Criticism of the Ecological Footprint Model

The ecological footprint is not an exact science and for the purposes of modelling, certain assumptions and proxy data need to be used for certain areas. There have been a number of criticisms of the ecological footprinting method which include van den Bergh & Verbruggen, (1999), Ayres, (2000) and Van Kooten & Bulte, (2000). Some of the criticisms are discussed briefly below.

Chambers *et al* (2000) in 'Sharing Natures Interest' discussed the point of why the ecological footprint method focuses only on renewable resources, when they are already perceived as sustainable. They went on to explain that renewable resources can be depleted if they are overused or misused and the ecological footprint highlights how much these are being diminished by current practices.

Vuuren & Smeets, (1999) have argued that ecological footprinting is limited as an indicator of sustainability and cannot be a true indicator of sustainability until it includes economic and social indicators. The method, however, is not to show sustainability, but the impact of the activities that have been undertaken at a given point in time. It does not take into account the quality of people's lives.

Chambers *et al* (2002) discussed the fact that the model could be thought of as too simple to represent the complex relationships between systems. They explain, however, that it is only designed to be an indicator, which should be used in conjunction with other indicators related to the particular issue being investigated. It is also often better to use simple models, as complex models can result in being too complicated for the purpose.

Moffat, (2000) and Kooten & Bulte (2000) have argued that the method has no predictive value and is therefore of little value to policy makers. The ecological footprinting method, however, was not designed for prediction. EF is used to provide a 'snapshot' in time of the current resource use. Several of these snapshots can be used to determine trends. Using this method also enables the consideration of alternative scenarios to create more sustainable communities.

9.4.4.A Comparative Study

What ever the critics say, I think the ecological footprint mythology gives the community a motivation to reduce carbon emissions. It is a practical and effective way to create pro environmental behaviour in people, in a world where leaders are born to criticise each other and look at their own interests. Societies have to take change in to their hands and in this sense eco-villages, and eco-communities are fighting Climate Change while Europe and America, China, and Russia are doing nothing.

In 2007 an ecological footprint comparison study was undertaken by GEN-Europe (the Global Eco-Village Network) in collaboration with the Sustainable Development Research Centre (SDRC) in Forres. Technical support was provided by the internationally-recognised footprinting consultants, the Stockholm Environment Institute (SEI) based at the University of York. The study compared the ecological footprint per person of all United Kingdom, Scotland with two eco-villages, the Findhorn Foundation eco-village, and the Beddington Zero Energy Development (Bed Zed) eco-community.[18]

[18] Read the whole study at http://www.ecovillagefindhorn.com/docs/FF%20Footprint.pdf

Category	UK	Scotland	Findhorn	Bed Zed
Food	1.14	1.06	0.55	0.99
Home and Energy	1.35	1.33	0.47	0.36
Travel	0.85	0.99	0.89	0.26
Consumables	0.65	0.67	0.56	0.37
Services	0.41	0.33	0.41	0.24
Government and Other	0.47	0.47	0.47	0.47
Capital Investment	0.51	0.51	0.51	0.51
Total	**5.40**	**5.37**	**3.86**	**3.20**

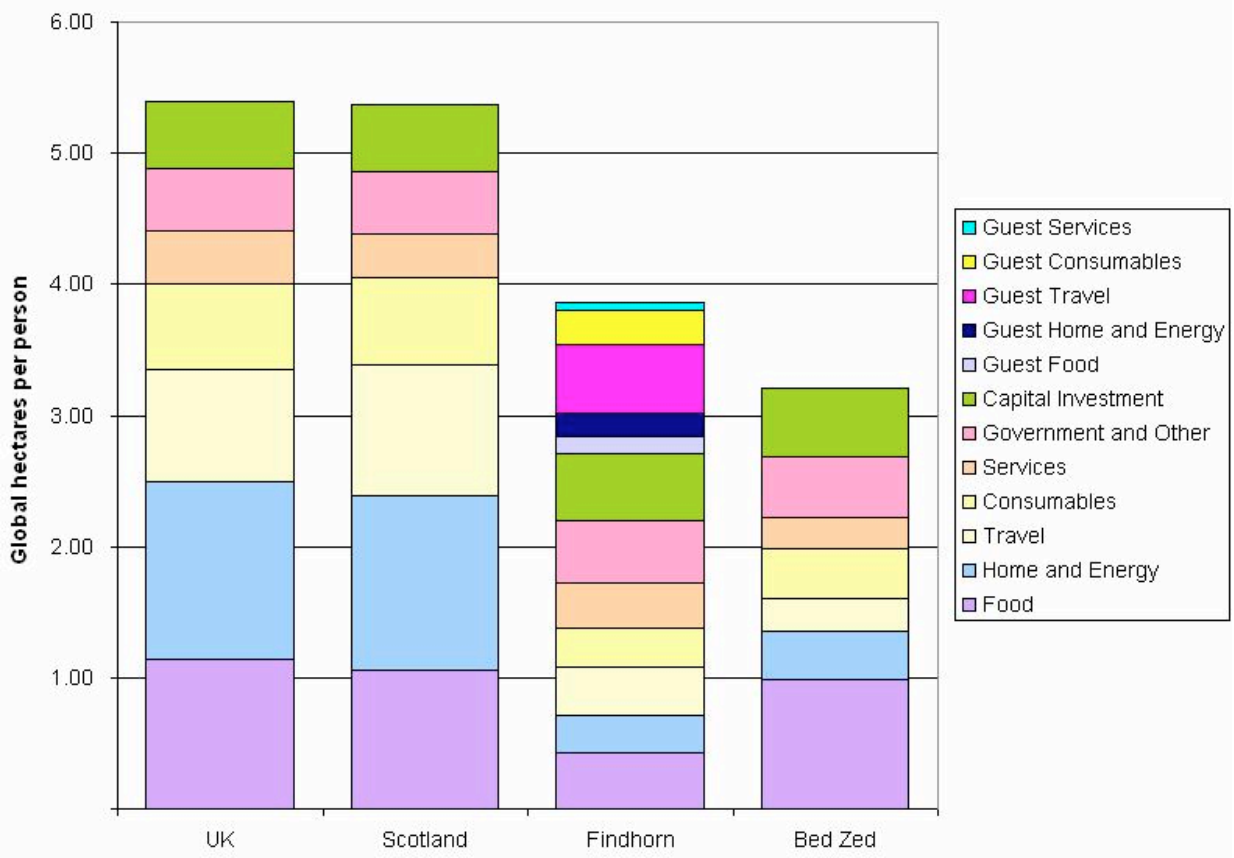


Figure 3: Comparison of ecological footprints for UK, Scotland, total Findhorn Foundation and Community and Bed Zed

The comparison study clearly shows that the two eco-communities have a lower carbon footprint than that of UK and Scotland. It is obvious that an eco-village has a lower carbon footprint than an average local community. But the lesson from this case study is, it shows us that there is enough technology in the world to manage the pollution and carbon dioxide emission. It shows that the IPCC and UNFCC are not searching for answers in the right places.

9.4.5. Green Practices of BedZED

How can it be that the world Climate Change and environmental organizations completely missed such living example of environmental and social management? Is it mere unawareness from the part of big environmental organizations or is it the capitalism worshiping and egocentric ethics of them that made them ignore obvious solutions? May the reader be the judge. Whatever the reason may have been, what is most relevant for this thesis is to know, what made BedZED and many other ecological communities achieve a low carbon footprint. According to (BedZED, 2014) they have adapted the following innovative technologies:

- **Green Buildings** The buildings were made by using material, specially designed to store heat when warm and release heat when colder - plus there is also the benefit of insulation around all the buildings. The build site was chosen because of its south-facing position - which maximises the amount of sunlight reaching each property.
- **Zero Carbon Buildings** BedZED's construction of zero carbon buildings and the retrofitting of existing buildings offer some of the most cost-effective and most immediate strategies in response to climate change. Over the years they have developed a unique construction system, environmentally sound and energy efficient. Using natural and non-toxic materials we have developed a 'breathing wall' structure, which allows the fabric of a building to interact beneficially with people to moderate humidity and air quality.
- **Renewable Materials** The BedZED eco-community is built using renewable or recycled materials, sourced from sustainable forests and other sources. This helps to minimise the carbon footprint that went into the making of the homes.

- **Innovative Heating** The design of each property means that all excess heat given off during everyday activities such as heating and cooking is stored and reused again. This helps to ensure that all forms of heat are used and not wasted, which in some cases eliminates the need to turn the heating on at all.
- **Reduced Energy Consumption** The finish in each property is designed with the environment in mind. This includes energy saving appliances and light bulbs as standard. The use of energy meters in each home helps make energy consumption more visible to each individual in their home, and more aware of how much energy each task in the home uses up.
- **Self Sufficient Heating and Electricity** BedZED receives its power from a small-scale combined heat and power plant. In energy generation at a coal power station, for example, the by-product of heat that is given off during the generation of electricity is lost. With combined heat and power energy generation, this energy itself is harnessed and put into the system, used to heat water for all the properties, distributed using extra insulated pipes. The plant itself is powered by off-cuts from tree surgery waste, which would otherwise reach the landfill.

9.4.6. Conclusion

Eco-villages are not for hippies or people who love nature. It is a necessity for the world environmental problem. United Nations cannot look for answers elsewhere now, they must agree to seek alternative solutions to reduce the human energy and resource consumerism. I believe, the eco-village concept is one such model to reduce our carbon footprint and explore sustainable life styles not only in environmental but also in social, economic and spiritual terms. Eco-village principles can be applied equally to urban and to rural settings and to industrialized and non-industrialised countries. They address the

need for participation in human-scale communities while nurturing and protecting the natural environment. Eco-villages are communities with strong and vibrant social structures, united by common ecological, economic, social and spiritual values. Working with the simple principle of not taking more away from the Earth than one gives back, eco-villages consciously work towards progressively reducing their ecological footprint**.** They do this by focusing on:

i. Local food production

ii. Ecological building

iii. Renewable energy systems

iv. Reducing, re-using and recycling waste

v. Cooperative, social economies

vi. Inclusive decision-making processes

vii. Cultural and spiritual diversity

viii. Integrated holistic health care

ix. Holistic and 'whole person' education

10. A BUDDHIST APPROACH TO DEVELOPMENT

"You must not lose faith in humanity. Humanity is an ocean; if a few drops of the ocean are dirty, the ocean does not become dirty."

- Mahatma Gandhi

10.1. The Sarvodaya Movement of Sri Lanka

The history of the concept of Sarvodaya in the modern era begins with English social philosopher John Ruskin. In 1860, Ruskin wrote a series of essays that criticized the capitalist system because it created a hierarchical social structure, hyper-competitive culture, mechanical worldview, and undermined the dignity of labor. As an alternative, he suggested building economic systems that facilitate fair wages, meaningful work, and which would focus on enabling the least powerful, not the most. He published this collection of essays in 1862 as a book, entitled *Unto This Last.*

While Ruskin provided the framework for Sarvodaya philosophy, the term would not be coined until a half-century later. In 1904, a young lawyer in South Africa, Mohandas Gandhi, was given a copy of Ruskin's *Unto This Last* by Henry Polak, a newspaper editor in Johannesburg. Gandhi read it during an overnight train ride, and recalled in his autobiography that it caused "an instantaneous and practical transformation of my life." He continued, "I believe that I discovered some of my deepest convictions reflected in this great book of Ruskin."

The lessons that Gandhi understood from *Unto This Last* were:

i. That the good of the individual is contained within the good of all.

ii. That all people have the same right to earn a livelihood from their work, regardless of trade.

iii. That a life of labor as a farmer or hand-craftsman is a dignified and valuable life.

In order to share these insights with his countrymen in India, Gandhi translated *Unto this Last* into the Gujarati language in 1908, and entitled it *Sarvodaya* (the well-being of all). Inspired to build a Sarvodaya society, he founded the Phoenix Settlement in South Africa, a farm where everyone received the same wage regardless of ethnicity or assigned tasks. Throughout the rest of his life as a social activist and philosopher, the concept of Sarvodaya remained a central motivating force. Since Gandhi's death in 1948, Sarvodaya philosophy and practice has manifested in movements throughout India for land redistribution, small-scale agriculture and manufacturing, low-cost practical education, and non-violent political reform.

The fullest manifestation of Sarvodaya, however, has been on the small island of Sri Lanka, south of India. In 1958, a young science teacher named A.T. Ariyaratne, who had been inspired by Gandhi's activism and Sarvodaya philosophy, found himself dismayed with the attitudes of his upper-class students toward the country's many impoverished villagers. He decided to organize a two-week "Shramadana" (sharing of labor) in which the students would work alongside villagers on basic needs projects, and would join with them in meals, conversations and cultural performances. The goal was not to provide charity, but to inspire "the awakening of all through the sharing of labor." Thus, the Sri Lankan Sarvodaya Shramadana movement was born.

Shramadana means “sharing work, knowledge, talents, and time.” The aim of the movement is to use shared work, voluntary giving and sharing of resources to achieve the personal and social awakening of everyone - from the individual, to the village, and continuing up to the international level. ‘Awakening’ means developing

human potential and it is a comprehensive process that takes place on the spiritual, moral, cultural, social, economic and political levels. Sarvodaya strives for a model of society in which there is neither poverty nor excessive affluence. The movement's holistic approach is based on Buddhist principles (including goodness, sympathy, and tranquility) and on the Gandhian values of truthfulness, nonviolence, and self-sacrifice.

10.2. The Five Evolutionary Stages of a Village

To fulfill its ambitions to develop human potential and to achieve widespread social effectiveness, the movement is working with a participatory approach in nearly 15,000 villages on the island. The program is adjusted to the specific social, cultural, and religious conditions in each region. At the same time, all of the villages go through five stages of evolution or awakening:

Stage 1: Inquiry from the village and organization of an introductory Shramadana camp for the village, during which problems are analysed together and needs are identified

Stage 2: Establishment of various groups (children's, youngsters, mothers' and farmers' groups), construction of a child development centre, and training of staff

Stage 3: Program for meeting the basic needs and setting up institutions (including the founding of the Sarvodaya Shramadana Society, which is responsible for the village's development initiatives)

Stage 4: Measures to produce income and employment; establishment of complete self-reliance and self-financing

Stage 5: Support for other village communities

The approach is designed in such a way that ten villages are always grouped around a pioneering village that has already reached the fifth stage. These villages cooperate, and the groups of ten are linked to one another in turn at the district and national levels, so as to be able to implement common projects such as a regional water supply. The aim is that the villages should be able to manage themselves as a community – to be organized, self-reliant, and able to act independently. The Sarvodaya

Movement has identified ten elementary and basic needs. Satisfying those means, liberating the spirit from its own limitations and from unequal socioeconomic conditions, and thereby developing human potential in the Buddhist sense (www.sarvodaya.lk, 2015):

i. Clean environment

ii. Adequate supply of water

iii. Clothing

iv. Nutritious food

v. Shelter

vi. Health Care

vii. Communication

viii. Fuel and lighting (energy)

ix. Access to education

x. Cultural and spiritual performance

10.3. A Buddhist Approach to Disaster Resilience and Climate Change

After the end of colonial rule by the British in 1948, ending 400 years of colonialism, the founder of Sarvodaya, A. T. Ariyaratne reached back before that time searching for Buddhist community organizing principles. Part of the genius of the organization is his translation of Buddha's vision of community into his development strategy. In Buddhism, the goal for the lay person is developing a strong ethical foundation that will guide them toward enlightenment or awakening. In Buddhist society, attaining material wealth is not the goal of life, nor is it having power over your neighbour but rather mutual awakening to the truths of existence. He translated that into the goal of “no poverty and no affluence.” The Buddha felt that one could not work toward awakening unless one's basic needs were satisfied. But the pursuit of wealth, or conquest didn't lead toward peace and happiness. Thus the goal for village development is both material satisfaction of needs and spiritual development toward awakening … for all. The integration of material and spiritual development is a very important lesson the developed world needs to understand and learn from Sarvodaya.

Despite its size as an organisation, Sarvodaya is a NGO that focuses on the spiritual cultivation of people through social engagement. Volunteers, staffs and community members are encouraged to cultivate their spirituality through participation in Sarvodaya projects and develop the eight human qualities taught by the Buddha, important for working towards enlightenment.

Metta - Loving kindness

Karuna - Compassionate action

Muditha - Altruistic joy

Upekkha – Equanimity

Dana – Sharing

Priyavachana - Pleasant language

Arthacharya - Constructive action

Samanathmata - Equality

The cultivation of these qualities are central to the ethos of Sarvodaya and form the backbone to many of the decision making of the organisation; from the Buddhist clergy they work with, to the programs and projects they choose to undertake. Sarvodaya's approach aims to empower and awaken people from the village level. This grass-roots movement is central to their attitude of transforming the least empowered people. Through skills training, forming village cooperatives, building networked and inter-dependent relationships with neighbouring villages, Sarvodaya hopes to awaken people, professionally, politically and spiritually. Similar to the goal of the Buddha to awaken people through his teachings, Sarvodaya aims to awaken individuals, families and villages up to the national and international level through Buddhism inspired action. Through a people's movement approach, disaster recovery is organic and locally resourced. This helps to build relationships and bonds that encourage reciprocity and the spirit of social engagement. This social network is an asset for the community and becomes the ingredient for resilience when disaster strikes because it can bring people together to offer labour and financial resources through donations and fundraising. Sarvodaya also invites monks and nuns to participate in disaster recovery because of their local status as holy and respected people, commanding leadership with their moral standing. Buddhist clergy has two important roles in disaster recovery, firstly to encourage the people unaffected by the disaster to donate and volunteer their services towards recovery and secondly to offer Dhamma counselling to the emotional distraught.

*10.4. A Change of Approach **to Climate Change***

A Buddhist approach to disaster recovery and resilience is unlike any other approaches because of the fundamental goal to attain enlightenment. This primary objective sits on top of the projects and programs as these activities become vehicles to engage people, whether staff, volunteers, affected community and survivors to cultivate their transformative qualities for enlightenment. Thus, where secular approaches have their focus on the recovery project, such as the efficiency of their staff and effectiveness of their three or five year program, Buddhist approaches are concerned about getting involved as many people as possible in the recovery process, so that more people can be influenced to practice Buddhism. The ultimate measure of success of a Buddhist approach is whether people are awakened to their potentials as human beings, to have the qualities such as loving kindness, compassionate action and equality. Only through the cultivation of these principles people can develop spiritually and allow communities to be more resilient through individuals that are empowered to love themselves and others.

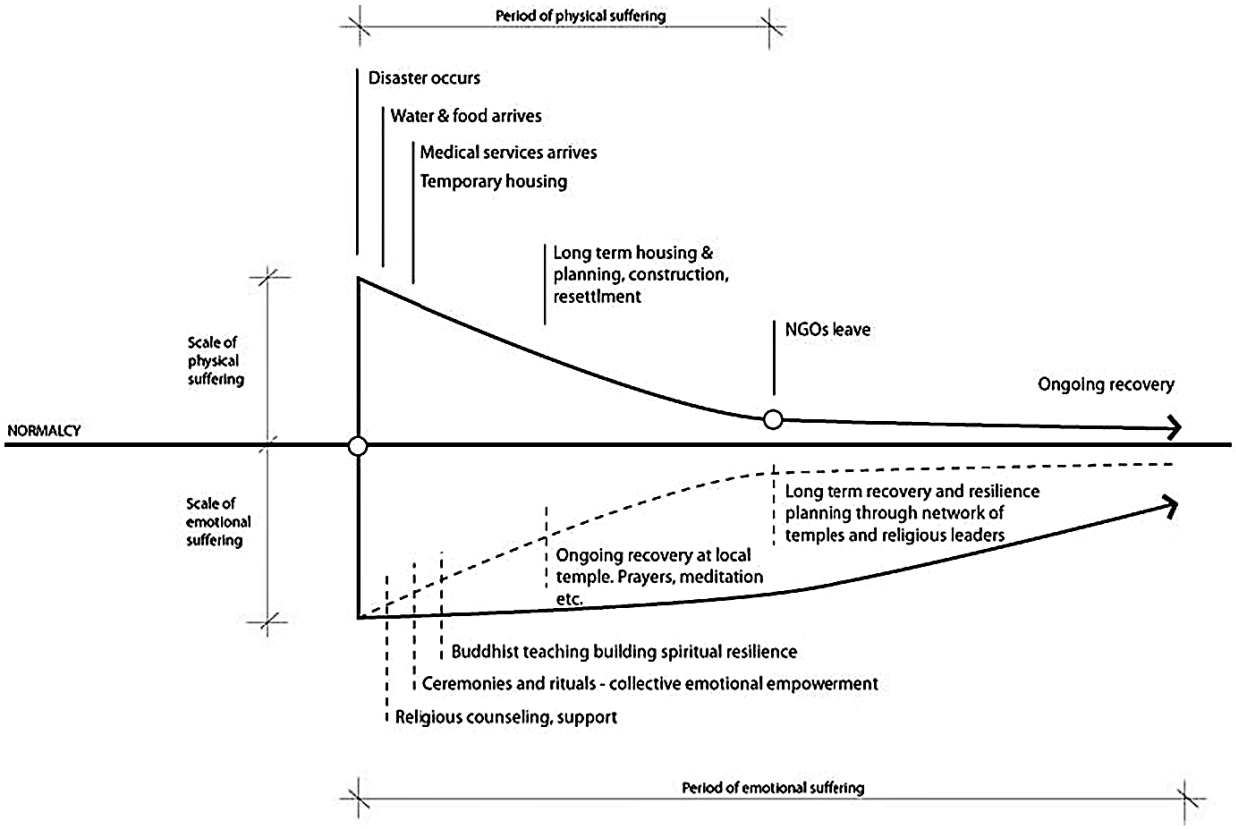


Figure 4: Buddhist approach to physical and emotional recovery (source Sarvodaya.lk).

Disaster is defined as disruption of the functioning of a society due to widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected society to cope using its own resources. Natural disasters impact differently on rich and poor as the disaster risk is an intricate function of three major factors; hazard, vulnerability and capacity of people. Therefore Sarvodaya approach to resilience development focuses not only on the environmental resilience, but also on overcoming poverty and developing self-sustaining disaster resilient communities in Sri Lanka.

Sarvodaya believes society should have the following types of **capital** to be resilient.

i. ***Physical capital*****:** assisting the poor to make their physical capital more climate-resilient;

ii. ***Social capital*****:** supporting social networks that provide safety nets;

iii. ***Financial capital*****:** supporting the poor to reduce and spread their financial risks;

iv. ***Natural capital*****:** protecting the resilience of natural systems to support livelihoods of the poor;

v. ***Human capital***: supporting the voice of poor to be heard at a political level;

vi. ***Spiritual capital:*** The good spiritual ethics and a heart of compassion to help others as oneself.

i. Physical capital

Assisting the poor to make their physical capital more climate-resilient

Physical infrastructure includes culverts, bridges, water structures, drainage channels, and roads. When people live in marginal areas, essential infrastructural facilities and services such as roads, electricity, hospitals, schools, sanitation and communication services are also not adequately available for them. As poor people are not an attractive target for the authorities in terms of revenue collection etc., investment on the infrastructural facilities in poverty-stricken locations is also minimal. Under these circumstances, poor people become the regular victims of the disasters unlike rich people who live in physically less vulnerable areas. Sarvodaya take actions to provide these basic humanitarian needs to the rural poor villages in Sri Lanka.

ii. Social capital

Supporting social networks that provide safety nets

Social infrastructure includes knowledge/information, life-saving services, access to productive resources, marketing and social networks. The poor, who live in disaster-prone areas, are more vulnerable socially than the poor in other areas due to specific

contextual issues. Due to recurrent disasters, people of disaster-prone areas are often displaced. Broken families, lost friends and neighbours, loss of employment and assets, collapsed institutions and disrupted societal links are regular features of disaster-prone regions and these factors collectively contribute to increase the social vulnerability of the communities. Sarvodaya form collective interest community institutions, called the Sarvodaya Shramadana Sangamaya (SSS) in the affected communities. The SSS were the coordination and networking of the village social groups take place. These are formal and informal groups and networks aimed at articulating the community's interests and demanding governments' accountability. They include kinship, family, faith groups, ethnic groups, political organisations, welfare organisations, local government bodies, NGOs, and CBOs (community-based organisations).

iii. Financial capital

Supporting the poor to reduce and spread their financial risks.

Economic vulnerability refers to the exposure of the people to the disastrous shocks due to meagre income and deficient resources. Poor people who live in disaster-prone areas do not go for long-term investments as livelihood risk is relatively high. Temporary livelihoods exist basically below subsistence level and do not produce surplus for savings and investments for future. Consequently, communities of disaster-prone areas live under poverty condition for generations and generations with no improvement. Unlike other communities, disaster-prone communities need to replace their assets such as tools, livestock etc., repeatedly in the production cycle to maintain their meagre income for the survival. The economy of disaster-prone communities is weakened by inadequate and unfair economic services, too. They have low access to institutional credit due to low creditworthiness and high premiums for insurance, if available, due to high production risk. All these factors and issues collectively and negatively impact on the economy of the poor, increasing their economic vulnerability.

Sarvodaya establishes microcredit institutions called Sarvodaya Economic Enterprise Development Services (SEEDS). SEEDS has been in existence since 1986. From its beginnings, operating in 80 societies in 5 districts, it has expanded to a national level project, operating in over 2,600 societies, covering more than 5,000 villages, in 18 districts, encompassing nearly a half a million people. SEEDS' goal, as the economic arm of the Sarvodaya Movement, is to facilitate the eradication of poverty, by promoting the economic empowerment of rural people and working with them towards creating a sustainable livelihood. SEEDS enable Sarvodaya members to pursue their income-earning activities more successfully, firstly, through making capital available at fair rates of interest, and secondly, through providing training, information, advice and product marketing support towards improving their business and technical skills.

iv. Natural capital

Protecting the resilience of natural systems to support livelihoods of the poor

Monopolistic and discriminatory market mechanisms negatively affect agricultural economies. The livelihoods of rural communities who are connected to the global economy are vulnerable to fluctuations in world commodity prices. When low commodity prices coincide with natural hazards, rural livelihoods come under high stress. Fluctuations can be felt directly by those who extract a livelihood from the sale of primary resources (farmers, fishermen and foresters), but also by the rural landless who are reliant on selling their labour and maybe the first to suffer in an economic downturn. Therefore, market regulations in favour of agricultural economies are required to stabilise rural livelihoods. Sarvodaya's Livelihood options for Disaster Risk Reduction programme suggests a fundamental change in the way disasters are analysed and addressed. It advocates a process-based analysis, where the problem of disasters is approached with the analysis of hazards, risks, resources and asset bases, vulnerabilities and capacities within the socioeconomic context at the community level,

with the engagement of the communities throughout the process. The analysis must be location- and hazard-specific, providing the basis for identifying the most suitable livelihood options for given locations, hazards, resources and communities. It has the potential to reduce levels of risk and poverty by being specific and appropriate (in terms of both physical and social infrastructure), opening avenues for the expansion of communities' asset bases and diversified livelihood options, thereby expanding resilience and reducing poverty.

v. Human capital

Supporting the voice of poor to be heard at a political level

It should be emphasized that a mere mobilised community or a self-help group (SHG) may not be able to win back its basic rights (entitlements to assets, land rights, health, education, and other services) unless governance structures are sensitive to its needs and responsive to its demands. Governance principles, polices, and practices are the most fundamental element in ensuring an enabling environment that turns assets into livelihoods. The Sarvodaya disaster management programme has also found that government institutions in Sri Lanka are not receptive to new ideas or different approaches unless they are backed by tangible dividends. To adjust to the perceptual preferences of decision-makers, it is appropriate to start by prompting communities to identify needs, get into mobilised groups, enhance their negotiating power and build local leadership to influence public policy at the local level. The programme experience is that policy changes from above without the participation of first respondents (the community), who will not bear the desired fruits and will face complications in implementation. Therefore the starting point is local government institutions and officials, with whom the mobilised communities can forge interactions to achieve a win-win situation. The new form of community-government liaison is mutually beneficial for both parties: for communities by getting disaster risk and poverty issues addressed, and

for the local government officials as an opportunity to affirm their position through the dynamics of interactions and the positive outcomes of the investments.

vi. Spiritual capital

The good spiritual ethics and a heart of compassion to help others as oneself.

Spiritual Capacity is the ability of the people to cope with inner psychological emotional turbulence due to inner mental balance. When vulnerability and disaster risk is high, then inner and outer resilience may become low. But when the spiritual capacity is high people find hope, and courage to stand up together as a community to overcome the impact: In such communities resilience is high. Therefore Sarvodaya believes the spiritual resilience is the most important type of resilience in order to reach true awakening. Spiritual capacity also includes education and improving the knowledge capacity of people as well. Thus, impact of similar nature of disaster varies from country to country, and community to community, depending on the measures taken to reduce the vulnerabilities or to increase the capacity of people. Sarvodaya has managed to figure out how to integrate material and spiritual development using an interfaith approach. They use four key Buddhist concepts of “metta” or loving-kindness, “karuna” or compassion, “muditha” or sympathetic joy, and “upekkha” or equanimity, as grounding spiritual principles that translate across spiritual traditions. Their work building this interfaith religious bridge could be very beneficial around the world where religious conflict divides communities.

10.5. The World NGOs Have a Lesson to Learn

I was a former employee of the Sarvodaya movement for a short time. From what I have seen during the 3 years I worked for Sarvodaya disaster management centre was that Sarvodaya has a sophisticated village development method composed of ~~from~~ psychological and social Infrastructure development and training, to the satisfaction of ten basic needs, to income, self-financing and employment, finally to sharing with neighbouring villages. There is a wealth of practical development experience they have accumulated over their 55 years of work to share with the world. Sarvodaya has not done any of this work to its perfection and they are also always in the midst of their own institutional challenges as is true of any organization. But there is a great deal the world can learn from their collective experience and their inspired leadership that could be of great benefit. We live in a time where we will be forced - either by climate change or by fossil fuel depletion - to change course away from a material growth based economy. Sarvodaya presents an alternative social model for building a society that is spiritually based rather than materially based. Their social goal is human happiness rather than prosperity. Sarvodaya demonstrates a 30-year working model for human development that has thrived on their unique Buddhist way of working. Despite the funds they received came from the World Bank and many other international development NGOs, Sarvodaya could hold on to its work ethic without altering, or deviating from their goals to match up with the donors views of development (which most small NGOs often do).

For example, after the devastating 2005 Tsunami wave, shockwaves of fear, anxiety, stress and confusion hit the hearts and minds of thousands of survivors. People were broken materially and emotionally. At this moment, they needed the help of people who will not only provide housing, food and medicine, but also listen to their plight,

share comforting words and console their grief. They also needed to be reconnected to the immense spiritual resources from which they can draw energy to heal the pain and suffering and to reawaken their lives with renewed faith and hope. To meet these needs, Sarvodaya mobilized (even before the Sri Lankan government. and the INGOs started working) a huge supply of cloths, food, drinks and medicines that were gathered as donations through the mere compassion of Sri Lankan citizen. Then Sarvodaya immediately released a group of 100 counsellors and meditation teachers, Buddhist and Catholic nuns and monks to implement a psycho-spiritual healing programme for the Tsunami survivors. After 7days by the time INGO help started arriving to people Sarvodaya had already motivated volunteer actions with its compassion. Later Sarvodaya could help even more effectively through mobilizing the funds given by donors. The United Nations agencies and American Psychotherapist Association worked closely with Sarvodaya in sending aid for housing reconstruction, medical treatment and also groups of professionals to help to build the capacity of the volunteers working for Sarvodaya.

11. Discussion

"*First they ignore you, and then they laugh at you,*

Then they fight you, and then you win".

- Mahatma Gandhi

In an ideal world in which all human beings were equal, rational, and perfectly governed, when confronted with the prospect of global warming, we might reach an optimal decision based on compelling climate science. That ideal world would then find effective international agreements to restrict greenhouse gas emissions and avoid harmful Climate Change. We do not live in such a world.

As an environmentalist, I always thought that with enough good science, we would be able to solve the environmental crisis. Unfortunately I was wrong. I used to think the greatest problems threatening the planet were pollution, bio-diversity loss and climate change. I was wrong there, too. I now believe that the greatest problems are pride, apathy and greed. I believe the present environmental problems call for "a cultural and spiritual transformation" and an admission that "the scientific community doesn't know how to do that" but religious teachers do. In reality, the science of Climate Change, no matter how advanced, will never be sufficient to tell humanity what to do. Science may be able to inform policy by forecasting how severe climate change will be, given different greenhouse gas levels. However, experience teaches that science alone is never enough. When confronting environmental challenges, considerations of fairness, equity, and justice must also inform any successful international agreement.

11.1. The Role of Religions in Climate Change

It is true that religious believes can provide mental and emotional salvage to humanity when suffering in the midst of natural catastrophes, such as an Earthquake in Haiti, or a Tsunami in Japan, or a Hurricane in the United States. Religions ALSO can influence individual's attitudes and behaviour, which can then lead to societal transformation. Can religion also play a role in Climate Change?

Today, religious communities are increasingly providing resources and teachings to affirm and deepen environmental ethics. Whether in the Vatican's bid to become the world's first carbon-neutral state, the host of environmental policy statements generated by religious denominations, the embrace of "creation care" by evangelical Christians, or the rise of faith-based environmental organizations, religious worldviews are being applied as never before to help solve environmental problems and preserve ecological integrity.

Just as healthy religion fosters healthy ecology, noxious religion fosters noxious ecology. For the environment, the most menacing religion of them all is the Materialism and Consumerism of western civilization. One of the reasons that our culture is so impervious to the scientific data that verify anthropogenic climate change is, at its core, "Religious Capitalism." As a society, regardless of our stated creeds, we are inclined to idolize the religion of Oil Companies. An honest conversation about Climate Change has failed because we keep debating whether climate mitigation makes economic sense, and whether the scientific evidence for anthropogenic Climate Change is settled. We need to ask deeper questions: ethical questions, religious questions. Questions investigating why we have developed ethics for suicide, homicide and genocide, but not for biocide or geocide. At the most fundamental level, Climate Change is not a scientific,

political, economic or energy problem. It is a moral and ethical crisis. Our energy use and consumption threaten life as we know it. Solutions won't come simply by stacking up more scientific facts or technical arguments.

In my view, our common goal in life is to create a prospering global community of life that is socially just, peaceful, ecologically sustainable, diverse and beautiful. Religions can teach how one can learn from the present crisis to improve our lifestyles in such a way that they are a better expression of our essence. We must first ask ourselves the questions, did the separation of scientific knowledge from religious and spiritual knowledge result in a loss of ethical norms on how to use technical knowledge for economic purposes? If we had valued our religious and spiritual knowledge more and had maintained a better balance between religious, spiritual and scientific knowing, what would have happened? Would we have respected biological, cultural and religious diversity better?

One thing is certain, we cannot return to the simplicity of an indigenous lifestyle, but we can become aware that what we do and how we are at an individual level affects the global environment, both outer and inner. Religions can teach us how to live in a more sustainable way, not be drawn into unnecessary materialism. Just as our disregard of the environment is destroying its fragile ecosystem, our neglect for the sacred in creation is desecrating and destroying this most precious substance. The soul of the world is dying and we are unaware of what we are doing or what the consequences may be. This is the real spiritual tragedy of our present time, one that goes unreported and unrecognized.

I believe, as I have hypothesised in the 2nd chapter, the four root causes of environmental crisis and human caused Climate Change are:

i. **Detrimental ideology of capitalist influenced economic development,**

ii. **Detrimental ideology of human cantered decision making,**

iii. **Detrimental ideology of non-renewable energy consumption,**

iv. **Detrimental ideologies of what true happiness and wellbeing is**.

I believe they can be corrected by applying the following utopian environmental ethics that are agreed by most world religions. Since the proposed ethics are not analysable by the scientific method, the approach of Sociology of Knowledge would be most appropriate to interpret these religious environmental ethics.

Religions can prevent Climate Change by;

i. Reminding the society of the age old wisdom, that says our collective pursuit of materialism and our disregard for the sacred within all of life has had a devastating effect. We have dismissed our ancient role as guardians of the planet. As a result, the sacred fire that we were supposed to keep burning, the light of the sacred that nourishes all of creation, is slowly going out. And one cannot respond to our outer ecological situation in isolation without seeing its cause. We cannot heal the outer symptoms without knowing the inner cause. And yet because our culture has dismissed the importance of the spiritual world, it is difficult for us today to perceive what is happening around us in the world. We have even forgotten that 'outer' depends on the 'inner'. Almost all major religions are unanimous on this ethic.

ii. Reminding us that most harm that is done to Earth and society is done by *the self cherishing mind* of humans. We should know animals, plants and poor nations suffer because of *self centred life style* of humans. It is time to become aware, as Buddhist point out, that this *self cherishing ego centric mind* is the true cause of all problems and sufferings we have. And it is merely a biological part of a being that supports the

“survival of the fittest” necessities. But we must understand that we are no longer hunter gatherers, the egocentric ”survival of the fittest” tendencies have lost their original purpose. It can be loosened up now. As the species in the highest part of the eco-web we must play the role of the compassionate guardian of the Earth. Slowly giving up the egocentric anthropocentric life style and taking up an altruistic, human wisdom centred way of life is the place to start the change.

iii. Reminding us that human beings are a small part of the universal eco-web (not the middle), equally valued as the others. The rest of the ecology and human beings having the same value is the key message. These ethics are also adapted by the modern Deep Ecology Movement, and the Land Ethics Movement. Such a view is vitally needed for the present self-centred, capitalist society. Such a view can only be taught through the correct education mythologies. For the present economic generation such a view is “unacceptable”, because it breaks down all the economic, social, scientific ideologies of the time. But if this ideology were to be taught in schools from primary school upwards; soon the world would be a peaceful place and people would respect nature as they do themselves. Promoting equality among living beings will break down many race, gender, and poverty barriers as well as environmental exploitation and wildlife destruction. The approach to teaching and learning must change.

iv. Reminding us that nature is a harmonious play of various fundamental physical elements, such as the earth element, water element, fire element, wind element and the space (ether) element. And overuse, misuse, or manipulation of any of these elements seems to bring natural catastrophes and physical illnesses etc. Buddhist, Hindu, Tao, Shinto and Pagan, Wicca, and Ingenious religions are unanimous in this view. These elements seem to be the quantum physic behind all physical manifestations from physical bodies to inanimate and celestial objects. Such a view is being explored

already by quantum physicist, but their efforts don't have any implications on the environmentalism. Rediscovering these principals will help science to work with the changes of the climate more effectively than now. This view will help humans to understand their own bodies and health better.

v. Reminding the modern people about the *invisible celestial nonhuman* component of the environment that is vital to the balance as well as the visible nonhuman components. Traditional knowledge of every continent explains nature as an interdependent civilisation for humans, animals, plants, five elements and *invisible celestial* beings (deities, kami, or nature spirits, nagas, angels etc.). Ancient knowledge unanimously says that violation of these boundaries cause untimely natural disasters and incurable illnesses. For the most sciences and environmentalism these concepts are beyond grasp, and viewed as fairy tales or superstition. It is because the present education systems don't have the tools to acquire this kind of knowledge. Traditionally before one undertook any task of manipulating or altering nature, the *invisible celestial nonhuman* component was consulted for their opinion and agreement. There was a harmonious working ethic between the human and the nonhuman celestial component for many thousands of years. Not only Asian Buddhist, Hindu, Shinto and Tao but also European Pagans, American Indians and Incas and Mayas have held similar belief systems. Future education could adapt new methodologies such as meditation, prayer and rituals as new dimensions of accessing knowledge.

11.2. The Role of Education in Climate Change

Education can play a major role in supporting national development and meeting the needs and aspirations of a society. While the relationship between education and sustainable development is complex, education is the key to a nation's ability to develop and achieve sustainable development, especially when it is directed to improving agricultural productivity, providing skills for work in new industries, enhancing the status of women, promoting environmental protection, developing capacities for informed and ethical decision-making, and improving the quality of life for all.

Education for sustainability is a lifelong learning process that leads to an informed and involved citizenry having the creative problem solving skills, scientific and social literacy, and commitment to engage in responsible individual and co-operative actions. These actions will help to ensure an environmentally sound and economically prosperous future. Education for sustainability has the potential to serve as a tool for building stronger bridges between the classroom and business, and between schools and communities. Solving environmental problems and preventing new ones from arising will require an understanding and appreciation of the linkages between environmental well-being and human well-being. However, many of these linkages are not apparent at the first instance.

To bring environment and development concerns to people's notice, to enable them to understand the linkages between the two, to encourage them to take appropriate action, and to equip them with the skills necessary for taking the required action - education is necessary for all this. Teachers and schools make a special contribution to education for sustainable development through the educational objectives they emphasise when selecting the content and learning experiences for

students to study. Education institutions as Warren Wilson College and Waldorf Schools provide a working model that promotes sound environmental citizenship by consciously supporting programs and behaviours that display a willingness to sacrifice personal interests and conveniences for a larger ecological integrity. The schools educate for environmentally responsible citizenship by establishing study programs to produce expertise in environmental management, sustainable economic development, population, and related fields to ensure that all graduates are environmentally literate and ecologically responsible citizens.

11.3. How Can Schools and Universities Change their Ethics

i. Teach about the tension between the global and the local

Education should help young people to become world citizens as well as to play an active part in the life of their own country and community.

ii. Teach about the tension between the universal and the individual

Education should help young people to learn how to balance the promises of globalisation and its risks as well as choose their own future and achieve their full potential within their own cultures.

iii. Teach about the tension between tradition and modernity

Education should help young people to appreciate and value history and cultural traditions, balancing these with the ethical discernment and cooperative skills to appreciate where change and innovation are necessary and worthwhile.

iv. Teach about the tension between long-term and short-term considerations

Education should help young people to learn how to balance short- and long-term goals, in the full realization that the solutions to many problems call for patience and a consideration of the needs of future generations.

v. Teach about the tension between competition and cooperation

Education should help young people to strive for excellence in all they do whilst balancing the principles of “competition, which provides incentives; co-operation, which gives strength, and solidarity, which unites”.

vi. Teach about the tension between the spiritual and the material

Education should help young people to act in accordance with their cultural traditions and convictions while paying full respect to pluralism and concern for the well-being of others. Young people should be taught the power and abilities of the human consciousness. They should be able to balance material life and spiritual life.

vii. Teach about the tension between the existing curriculum and important new areas of knowledge

This means that the aims of education must balance the best of traditional curriculum content with important new areas of learning “such as self-knowledge, ways to ensure physical and psychological well-being [and] ways to an improved understanding of the natural environment and to preserving it better.” Education should help students towards the following objectives:

11.4. The Role of Eco-Villages in Climate Change

As part of this sustainable and community-oriented movement, non-profit organizations around the world are helping to facilitate such changes. The Global Ecovillage Network (GEN), provides a network of ecovillages that encourages international unity among these often small communities while also representing and upholding the goals of ecovillage networks, projects, and neighborhoods. GEN describes their mission as envisioning “a world of empowered citizens and communities, designing and implementing their own pathways to a sustainable future, and building bridge of hope and international solidarity.” In other words, the goal is not only to create a climate of sustainability, but to provide networks so that ecovillages across the globe can share ideas, teachings, and practices with one another in the hopes of improving standards of living for many people around the world.

The work of these groups is vastly important in creating more unified, more environmentally and economically friendly, and less wasteful communities. The mission of the eco village today is “to educate, connect, and inspire the next generation, to achieve the Global environmental consciousness we all wish to see.” The present eco villages are the Ambassadors of Climate Change who work within global communities,

teaching those communities how to adopt ecovillage principles so that their futures can be more resilient and less dependent on factors outside of their control. Armed with knowledge and passion, these ambassadors are inspired by the idea of community living that emphasizes renewable resources, green living, and fresh ideas that challenge notions of isolation in a global and interconnected world.

11.5. Dawn of a new World Environmental Ethics

The Greening of religion is taking place in every religious tradition, yet drawing general conclusions is difficult. This is true in part because making broad definitive statements about religious beliefs is problematic, but also because many of the factors prompting religious environmental teaching and ethical practice are local, even as our environmental problems occur on a global scale. However, in general, religious leaders seek to present religious environmental ethics less as something that is new, but instead as a traditional set of ethical responsibilities that need to be retrieved and re-presented in a new era.

Religious environmental ethics arise within the context of an existing moral worldview. Thus, the emergence of religious environmental ethics are not seen as an external concern that must be grafted on to a tradition, but rather an ancient wisdom that has been lost and must be rediscovered. The Greening of religion may have terrific potential for sparking broad changes in human society, in the thinking and acting of many people. Realizing this potential will require many people living a moral life according to the vision of these new religious environmental ethics.

This concludes this dissertation, I have tried my best to logically prove my hypothesis. I have also presented a theoretical alternative approach based on traditional knowledge, religion, environmental ethics and education. Finally, I have tried to prove my approach through presenting a few case studies from different parts of the globe. I am aware that the views and actions that I am proposing are going against main stream world view and work ethic, therefore they are bound to be criticised and rejected by most of the readers. Nevertheless, I have completed a task that I always wanted to do.

References

Adger W N, (2000), Social And Ecological Resilience: Are They Related? Progress In Human Geography, 24: 347 64.

Agar, Nicholas, (2001). Life's Intrinsic Value: Science, Ethics and Nature . New York, NY: Columbia UP.

Ames, William L. (2005), The Notion of Svabhāva in the Thought of Candrakīrti. In Buddhism: Critical Concepts in Religious Studies , ed. Paul Williams, vol. IV Abhidharma and Madhyamaka, Oxon: Routledge 46, Pp. 1–15.

Alcorn, J. B. (1993). Indigenous Peoples And Conservation. Conservation Biology 7:424-426.

Ames, Roger T. (1989), "Putting The Te Back Into Taoism," Nature In Asian Traditions Of Thought: Essays In Environmental Philosophy. Albany: SUNY Press, Pp. 113-144.

Aronson, Harvey B. **(1980),** Love and Sympathy in Theravada Buddhism. Delhi: Motilal Banarsidass. Barnhill,

Ayres, R. (2000)*. 'Commentary on the utility of the Ecological Footprinting concept'.* Ecological Economics Pp.32.

Batchelor, Stephen. (1994). The awakening of the west: the encounter of Buddhism and western culture. Berkeley, CA: Parallax Pres

Barbour, Ian G., Ed. (1973). Western Man And Environmental Ethics: Attitudes Toward Nature And Technology. (Reading, Mass.: Addison-Wesley.

Badiner, Allan Hunt, Ed. Dharma Gaia: (1990),A Harvest Of Essays In Buddhism And Ecology, Berkeley: Parallax Press.

BedZED seven years on " **(2015).***(PDF). Bioregional.com. July 2014. pp. 21–22*. 5-08-10*.*

Bellah, Robert N. 1973. *Emile Durkheim: On Morality and Society, Selected Writings*. Chicago: The University of Chicago Press.

Berkes F (1993), Traditional Ecological Knowledge In Perspective. In Inglis JT (Ed) Traditional Ecological Knowledge: Concept And Cases, Pp 1–9. Ottawa, Canada:

Berkes F, Colding J, Folke C (2000) Rediscovery Of Traditional Ecological Knowledge As Adaptive Management. Ecol Appl 10: 1251–1262

Bond, George. (2004). Buddhism At Work: Community Development, Social Empowerment And The Sarvodaya Movement . Bloomfield, CT: Kumarian Press.

Bookchin M. (1991). The Ecology Of Freedom: The Emergence And Dissolution Of. Hierarchy. Chapman, D. (1999). So You Want To Teach For The Environment? Environmental Education Research, 5 (3),Pp. 267-272.

Bookchin, M. (1987). Social ecology versus deep ecology: a challenge for the ecology movement. Green Perspectives, 4(5), 1-22.

Bookchin, M. (1995). The philosophy of social ecology: essays on dialectical naturalism. Montréal, Quebec: Black Rose Books.

Bourdieu, Pierre (1991), Language And Symbolic Power. Cambridge, Ma: Harvard University Press.

Bonanno G A (2005) Resilience in the face of potential trauma. Current Directions in Psychological Science, 14: 135-8.

Brooks N (2003) Vulnerability, risk and adaptation: a conceptual framework (Tyndall Centre Working Paper No. 38). University of East Anglia.

Brown, Brian Edward. (1990), "Buddhism in Ecological Perspective," The Pacific World, n.s., no.6 pp. 65-73.

Brown, D, (2009b), Nations Must Reduce Greenhouse Gas Emissions To Their Fair Share Of Safe Global Emissions Without Regard To What Other Nations Do., http://climateethics.org/?p=37

Brown, D (2009c). Minimum Ethical Criteria For All Post-Kyoto Regime Proposals: What Does Ethics Require Of A Copenhagen Outcome, http://climateethics.org/?p=50

Callicott, J. Baird. (1988). In Defense Of The Land Ethic: Essays In Environmental Philosophy. Albany: Suny Press.Pp.78-85

Callicott, J. Baird. (1980). Animal Liberation: A Triangular Affair. Environmental Ethics 2 (4): 318–324. Reprinted in Indefense of the Land Ethic: Essays in Environmental Philosophy, J. Baird Callicott, 15–39. New York: SUNY Press

Carson, R. (1962). Silent Spring. Boston, Mass., Houghton Mifflin. Ehrlich, P. R. (1968). The Population Bomb. Cutchogue, NY, Buccaneer Books. (Reprint 1997.)

Chapman, D. (1999). So you want to teach for the environment? Environmental Education Research, 5 (3), Pp. 267-272.

Chapman, D. (2000). The environment and democracy: Getting children involved in city planning. Childrenz Issues, 4(2), Pp.36-40.

Chapple, Christopher Key, And Mary Evelyn Tucker, Eds. (2000). Hinduism And Ecology: The Intersection Of Earth, Sky, And Water. Cambridge: Center For The Study Of World Religions.

Chapple, Christopher Key. (2000). Jainism And Ecology: Nonviolence In The Web Of Life. Cambridge: Center For The Study Of World Religions.

Coon, Charli,(2001). Why President Bush Is Right To Abandon The Kyoto Protocol, Heritage Foundation, May 11, http://www.heritage.org/research/energyandenvironment/bg1437.cfm

Curry, Patrick (2006). *Ecological Ethics: An Introduction*. Polity. Pp. 60. *ISBN 978 7456-2908-7*

David Landis. (2001). Relational Holism: Huayan Buddhism and Deep Ecology. In Deep Ecology and World Religions: New Essays on Sacred Ground, eds. David Landis Barnhill and Roger S. Gottlieb, Albany: SUNY Press. Pp.77–106.

De Silva, P. (1991). Buddhist Psychology: A Review Of Theory And Practice. *Current Psychology, 9*(3), Pp.236-254.

DFID (Department For International Development). (2004). "Taking Initial Steps Towards Adaptation." Key Sheet. www.unpei.org/pdf/resourceefficiency/km-resource

Dieter T. Hessel, Ed. (1992). *After Nature's Revolt: Eco-Justice And Theology* (Minneapolis, Minn.: Fortress Press, Pp.23

Dieter T. Hessel, (1996). "Ecumenical Ethics For Earth Community," *Theology And Public Policy,* VIII, No.1, Pp.2-04

Dieter T. Hessel, And Rosemary Radford Ruether, Eds (2000). Christianity And Ecology: Seeking The Well-Being Of Earth And Humans. Cambridge: Center For The Study Of World Religions, Pp.

Doniger, David, (2009). The Copenhagen Accord: A Big Step Forward. Dec, 21, http://switchboard.nrdc.org/blogs/ddoniger/the_copenhagen_accord_a_big_st.html

Dunlap Riley, George H. Gallup Jr. And Alec M. Gallup (1993), "Of global concern: results of the Health of the Planet Survey", *Environment*, vol. 35, No.9.

Durkheim, Emile, (1912). (1954). The Elementary Forms Of The Religious Life. London: Allen & Unwin; New York: Macmillan.

Eakin H & Lynd Luers A (2006) Assessing the vulnerability of social-environmental systems. Annual Review of Environmental Resources,31. Pp.365-394.

Fadiman, J., & Frager, R. (2002). *Personality And Personal Growth* (5th Ed.). Upper Saddle River, N.J.: Prentice Hall: Pp.13-26.

Freeman MMR (1992) The Nature And Utility Of Traditional Ecological Knowledge. Northern Perspect 20: Pp.7–12 www.carc.org/northern_perspectives.php

Findhorn.org, (2015.) Findhorn Official website. "[help] unfold a new human consciousness and [create] a positive and sustainable future" http://www.ecovillagefindhorn.com/docs/FF%20Footprint.pdf

Folke C. (2006). Resilience: the emergence of a perspective for social-ecological systems analyses. Global Environmental Change, 16: Pp.253-67.

Folke, C., F. Berkes, And J. Colding. (1998). Ecological practices and social mechanisms for building resilience for sustainability. Cambridge University Press, Cambridge, UK. . Pp.414-436

Gallopin G C (2006). Linkages between vulnerability, resilience, and adaptive capacity. Global Environmental Change, 16: Pp.293-303.

Gardiner, S.M., (2006). A Perfect Moral Storm: Climate Change, Intergenerational Ethics And The Problem Of Corruption. Princeton University. (Available At: http://faculty.washington.edu/smgard/gardinerstorm06.pdf)

Gerth And Mills (1946). Max *Weber*: Essays In *Sociology*, Oxford: Oxford University Press.

Gidley, J. (1998). "Prospective Youth Visions through Imaginative Education." *Futures* 30(5), Pp395–408

Gifford, Robert. (2011). “The Dragons Of Inaction: Psychological Barriers That Limit Climate Change Mitigation And Adaptation.” *American Psychologist* 66(4): Pp.290–302.

Gifford, R. (2007b). Environmental Psychology And Sustainable Development: Expansion, Maturation, And Challenges. Journal Of Social Issues, 63, Pp.199 – 212.

Gifford, R. (2008). Psychology’s Essential Role In Alleviating The Impacts Of Climate Change. Canadian Psychology, 49, Pp. 273–280.

Gifford, R., Iglesias, F., & Casler, J. (2009), June). Psychological Barriers To Pro-Environmental Behavior: The Development Of A Scale. Paper Presented At The Annual Meeting Of The Canadian Psychological AssoCiation, Montreal, Quebec, Canada.

Girardot, N.J., James Miller, And Liu Xiaogan, Eds. (2001). Daoism And Ecology: Ways Within A Cosmic Landscape. Cambridge: Harvard University Center For The Study Of World Religions, Pp.03-23

Goodwin, J and Jasper, J, eds (2004) *Rethinking Social Movements: Structure, Meaning and Emotion*. Lanham, MD: Rowman and Littlefield

Goodwin, J, Jasper, J and Polletta, F, eds (2001) *Passionate Politics: Emotions and Social Movements*. The University of Chicago Press

Gombrich, Richard. (1996). How Buddhism Began: The Conditioned Genesis of the Early Teachings. London, Athlone Press.

Green, Karen. (1996). Two Distinctions In Environmental Goodness. Environmental Values 5 (1): Pp. 31-46

Guha, R. (1998). Deep ecology revisited. In J.B. Callicott and M.P. Nelson (Eds.), The great new wilderness debate,Athens, GA: The University of Georgia Press. Pp. 271-279).

Heribert Busse (1998). *Islam, Judaism, And Christianity: Theological And Historical Affiliations*. Markus Wiener Publishers. Pp. 63–112.

Hanh, T. N. (1998). *The Heart Of The Buddha's Teaching: Tranforming Suffering Into Peace, Joy, And Liberation* (A. Laity, Trans.). New York: Broadway Books.

Howarth, Jane. (2000). Neither Use Nor Ornament: A Consumer'S Guide To Care. Environmental Ethics: An Introduction With Readings, Ed. John Benson, London: Routledge., Pp161–170.

Heribert Busse (1998). *Islam, Judaism, And Christianity: Theological And Historical Affiliations*. Markus Wiener Publishers. Pp. 63–112

Hoiberg, Dale H., ed. (2010). *"Abhidhamma Pitaka*". Encyclopedia Britannica. I: A-ak Bayes (15th ed.). Chicago, IL: Encyclopedia Britannica Inc. pp. 30–31.

Holling C S (1973). Resilience And Stability Of Ecological Systems. Annual Review Of Ecology And Systematics, 4: Pp1-23.

IEF (International Environment Forum) (2007) Activities At The United Nations, CSD 2007. Geneva. Available Online At: www.bcca.org/ief/activities.htm#activities_at_the_united_nations

IIED (International Institute For Environment And Development). (2010). "Beyond Cost-Benefit: Developing A Complete Toolkit For Adaptation Decisions." IIED Briefing. http://pubs.iied.org/17081iied.html.

IPCC (Intergovernmental Panel On Climate Change) (2001). Watson RT And The Core Writing Team (Eds) Climate Change 2001: Synthesis Report. Contributions Of Working Groups I, II And III To The Third Assessment Report Of The Intergovernmental Panel On Climate Change. Cambridge University Press, Cambridge. Also Available At: www.grida.no/climate/ipcc_tar/

IPCC (Intergovernmental Panel On Climate Change) (2004). 16 Years Of Scientific Assessment In Support Of The Climate Convention, Anniversary Brochure. Available Online At: www.ipcc.ch/pdf/10th-anniversary/anniversary-brochure.pdf

IPCC (Intergovernmental Panel On Climate Change) (2007a). Summary For Policymakers. In: Solomon S, Qin D, Manning M, Chen Z And Others (Eds) Climate Change 2007: Thephysical Science Basis. Contributions Of Working Group I To The Fourth Assessment Report Of The Intergovernmental Panel On Climate Change. Cambridge University Press,Cambridge. Available Online At: www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf

IPCC (Intergovernmental Panel On Climate Change) (2007b). Summary For Policymakers. In: Parry ML, Canziani OF, Palutikof JP, Van Der Linden PJ, Hanson CE (Eds) Climate Change 2007: Impacts, Adaptation And Vulnerability. Contributions Of Working Group II To The Fourth Assessment Report Of The Intergovernmental Panel On Climate change. Cambridge University Press, Cambridge. Also Available Online At: www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf

IPCC (2005). Guidance Notes For Lead Authors Of The IPCC Fourth Assessment Report On Addressing Uncertainties. Intergovernmental Panel On Climate Change, Geneva.

IUCN (1980). International Union for the Conservation of Nature and Natural Resources in collaboration with the United Nations Environment Program. World conservation strategy. Gland, Switzerland: ICUN.

IUCN, UNEP and WWF. (1991). Caring for the Earth: A Strategy for Sustainable Living. Gland, Switzerland, IUCN, UNEP, WWF.

Jasanoff, S. (2010). "A New Climate for Society." Theory Culture & Society 27 (2 3): Pp.233- 253.

Jamison, A (1994) Western Science in Perspective and the Search for Alternatives, in Salomon et al, eds, *The Uncertain Quest. Science, Technology and Development*. UN University

Jamison, A (2001) *The Making of Green Knowledge. Environmental Politics and Cultural Transformation*. Cambridge University Press

Judi Bari *(1995).* "Revolutionary Ecology: Biocentrism & Deep Ecology"*. Alarm: A Journal Of Revolutionary Ecology, Pp.22-30*

Johnson, Jayme. *2012. "Biocentric Ethics And The Inherent Value Of Life"* (PDF). Umass.Edu*. Retrieved 10 November,* http://people.umass.edu/jamesj/courses/ethics%20and%20environment/handout_3.1_phil160c.pdf

Karl Mannheim And W.A.C Stewart (1964). *An Introduction To The Sociology Of Education* (London: Routledge & Kegan Paul,), Pp. 33

Kaveh L. Afrasiabi, (1995)"Toward An Islamic Ecotheology," *Hamdard Islamicus,* XVIII, Pp.1

Kumar C. (1991). Utopias And Antiutopias Of Modern Time, Pp129

Kumar C. (2005) Revisiting 'Community' In Community-Based Natural Resource Management. Community Development Journal, 40: Pp.275-85.

Leopold, A. (1966). A Sand County Almanac: With Essays On Conservation From Round River. New York, Ballantine Books. (First Published In 1949: New York, Oxford University Press.)

Loh, J. (2000). *Living Planet Report 2004.* World Wide Fund. WWF.org

Mackinson, S. (2001). Integrating local and scientific knowledge: an example in fisheries science. Environmental Management 27: Pp.533-545

Maguire B & Hagan P (2007) Disasters and communities: understanding social resilience. The Australian Journal of Emergency Management,22: Pp.16-20.

Manuel And Manuel, (1982), Utopian Thought Of The Western World, Pp. 776

Mannheim, Karl, (1953). Essays On Sociology And Social Psychology. Edited By Paul Kecskemeti London: Routledge. – Pp. 77-164

Mannheim, Karl. (1952). Essays On The Sociology Of Knowledge. Edited By Paul Kecskemeti. New York: Oxford Univ. Press.

Mannheim, Karl. (1954). Ideology And Utopia: An Introduction To The Sociology Of Knowledge. New York: Harcourt; London: Routledge. -

Mannheim Karl And W.A.C Stewart (1964). *An Introduction to the Sociology of Education* (London: Routledge & Kegan Paul,), Pp. 33

Martin Parker, Valerie Fournier, Patrick Reedy, (2007). *The Dictionary of Alternatives: Utopianism and Organization*, by. Zed Books. ISBN 1-84277-333-X. Pp. 100.

Moffatt, I. (2000). ‘ *Ecological Footprints and Sustainable Development.’* Ecological Economics Pp. 32.

Muhiyaddin, M. A. (1984) *A Comparative Study Of The Religions Of Today*. Vantage Press, USA., Pp. 05-30

Naess, A. (1973). The Shallow And The Deep, Long-Range Ecology Movement: A Summary. Inquiry, Vol. 16, Pp. 95–99.

Nadasdy, P. (1999). "The politics of TEK: Power and the "integration" of knowledge.” Arctic Anthropology 36 (12): Pp.118.

Naess, A. (1989). Ecology, Community, And Lifestyle: Outline Of An Ecosophy. D. Rothenberg (Trans. And Ed.). Cambridge, Uk, Cambridge University Press.Pp.80-90

Nakashima DJ, Roué M (2002). Indigenous Knowledge, Peoples And Sustainable Practice. In Timmerman P (Ed) Encyclopedia Of Global Environmental Change. 5: Social And Economic Dimensions Of Global Environmental Change, Pp 314–324. Chichester, UK: Wiley

Nakashima, D.J., Galloway Mclean, K., Thulstrup, H.D., Ramos Castillo, A. And Rubis, J.T. (2012). Weathering Uncertainty: Traditional Knowledge For Climate Change Assessment And Adaptation. Paris, Unesco, And Darwin, Unu, 130 Pp.

Ogeltree, Earl J. (1979). *Introduction to Waldorf Education: Curriculum and Methods. University Press of America.*

O'Neill, John. (1992). The Varieties of Intrinsic Value. The Monist 75: Pp.119–137

O'Neill, John. (1993). Ecology, Policy, and Politics: Human Well-Being and the Natural World. London: Routledge

Oelschlaeger, Max. (1991). The Idea of Wilderness . New Haven, CT: Yale UP,

Plumwood, Val. (1993). Feminism And The Mastery Of Nature. Routledge.

Palmer, J. A. (1998). Environmental Education In The 21st Century: Theory, Practice, Progress And Promise. New York: Routledge

Pierotti *R. And* Wildcat*, D. (*2000*).* Finding The Indigenous In Indigenous Studies. Indigenous Nations Studies Journal 1: Pp.61-70. .

Pierotti, R. And D. Wildcat (2000). "Traditional Ecological Knowledge: The third alternative (commentary).” Ecological Applications 10 (5): Pp.1333- 1340.

Ricoeur, Paul.(1986). Lectures On Ideology And Utopia, Ed. George H. Taylor. New York: Columbia University Press.Pp. 150

Ricoeur, Paul. (1991), From Text To Action, Trans. Kathleen Blamey And John B. Thompson. Evanston, IL: Northwestern University Press, Pp 181-185

Rolston, H. (1975). Is there an ecological ethic? Ethics, Vol. 85, pp. 93–10.

Rolston, H. (1989). Environmental Ethics: Duties To And Values In The Natural World. Philadelphia, Pa., Prometheus Books.

Ross, A., K. Pickering Sherman, Et Al. (2011). Indigenous Peoples And The Collaborative Stewardship Of Nature: Knowledge Binds And Institutional Conflicts Walnut Creek, Ca, Left Coast Press.

Schmitz, Kenneth L. (1989). "Paradigms Of Nature In Western Thought," Man And Nature: The Chinese Tradition And The Future. Lanham, Md:Univ. Press Of America, , Pp. 33-54.

Shapin, Steven. 1995. Here And Everywhere: Sociology Of Scientific Knowledge. Annual Review Of Sociology21: Pp. 289-321

Shaye J.D. Cohen. (1999).*The Beginnings Of Jewishness: Boundaries, Varieties, Uncertainties*, Berkeley: University Of California Press; Pp. 7

Shellenberger, Ted & Michael Nordhaus. (2004). The Death Of Environmentalism: Global Warming Politics In A Post-Environmental World. www.thebreakthrough.org/images/death_of_environmentalism.pdf

Shellenberger, Ted & Michael Nordhaus. (2005). Death Warmed Over: Beyond Environmentalism: Imagining Possibilities As Large As The Crisis That Confrontsus. http://www.thelavinagency.com/articles_covers/shellenberger%20and%20nordhaus/death%20warmed%20over.pdf

Sponsel, Leslie E. (2012). Spiritual Ecology: A Quiet Revolution. Praeger. pp. xiii. ISBN 978-0-313-36409-9. www.spiritualecology.org.

Steiner,(1920). *The Spirit of the Waldorf School*, ISBN 9780880103947. pp. 15-23

Stern N (2007) The Economics Of Climate Change: The Stern Review Cambridge University Press, Cambridge, Pp.03-12

Stark, Werner (1958). The Sociology Of Knowledge: An Essay In Aid Of A Deeper Understanding Of The History Of Ideas. London: Routledge; Glencoe. III. Free Press.

Taylor, Paul W. (2010). "Egalitarian Biocentrism". In Keller, David R. Environmental Ethics: The Big Questions. John Wiley & Sons. ISBN 978-1-4051-7639-2.

Taylor, Paul W. (1998). The Ethics of Respect for Nature In Environmental Philosophy: From Animal Rights to Radical Ecology, eds. Michael E. Zimmerman et al. Upper Saddle River, N. J.: Prentice Hall, Pp. 71–86.

Tellenbach, Hubertus And Bin Kimura.(1992). "The Japanese Concept Of 'Nature'," In Callicott And Ames, Nature In Asian Traditions Of Thought, Pp. 153-162.

Thanissaro Bhikku et al. (2015), Access to Insight; Readings in Theravāda Buddhism. http://www.accesstoinsight.org/index.html

Thompson, Kenneth. (1982). *Emile Durkheim*. London: Tavistock Publications. Pp.125

Thrive. (2013). *Follow the Money*. http://www.thrivemovement.com/the_problem-follow_the_money

Tucker, Mary Evelyn And John Berthrong, Eds. (1998). Confucianism And Ecology: The Interrelation Of Heaven, Earth, And Humans, Cambridge: Harvard University Center For The Study Of World Religions,

Ullrich, Heiner (2008). *Rudolf Steiner. London: Continuum International Pub. Group. Pp. 152–154. ISBN 9780826484192*.

United Nations Educational, Scientific And Cultural Organization (2002) Universal Declaration On Cultural Diversity. Paris, France: UNESCO

UNFCC, 2014 United Nations Framework Convention On Climate Change, http://unfccc.int/essential_background/items/6031.php

Unger, R.M. *(*1987*)* *False Necessity*, Cambridge: Cambridge University Press

White, Lynn Jr. (1967):"The Historical Roots of our Ecologic Crisis," Science 155. Pp. 1203-1207

Woods, Philip A.; Martin Ashley; Glenys Woods (2005). *Steiner Schools in England. UK Department for Education and Skills (DfES). Pp. 89–90.*

WWC (2015). University Website. www.warren_wilson.edu.

WWC. (2010). *"A Triad of Academics, Work, and Service". WWC. Retrieved 5 July 2010.*

WWC. (2010). "History of Warren Wilson College" Accessed 4 July 2010.

WWC. (2010). *Warren H. Wilson (1867-1937)". WWC. Retrieved 5 July 2010.*

WWC. (2011). *Lillard, Margaret (25 February 2007). "Honoring an alum who was also a civil rights pioneer". LA Times. Retrieved 5 July 2011.*

WWC. (2013).*"Community Engagement Commitment". Warren Wilson College. Retrieved 23 May 2013.*

Warren Wilson College. (2015). Climate Action Plan. Warren Wilson College. Environmental Leadership Centre. (www.warren_wilson.edu/ELC)

Warren, Karen(1990):. 'The Power and Promise of Ecological Feminism'. Environmental Ethics12. Pp.125–46

Watson, Richard (1983). *"A Critique Of Anti-Anthropocentric Biocentrism". Environmental Ethics **5** (3): 252. Doi:10.5840/Enviroethics19835325.*

Weber, Max (1905). The Protestant Ethic And The Spirit Of Capitalism, Translated By Talcott Parsons, 2005. Published In The Taylor & Francis E-Library.

Weber, Max. (1978). Economy And Society: An Outline Of Interpretive Sociology. University Of California Press: Berkeley, Pp. 112-125

Wildcat, D. And R. Pierotti. (*2000)*. Finding The Indigenous In Indigenous Studies. Indigenous Nations Studies Journal 1: Pp61-70. 51.

W Imster, Sam (Ed.). (2004). The Essential Weber: A Reader. Routledge: New York, 24.53

Vasagard J. (2012). *"A different class: the expansion of Steiner schools",* Guardian 25 May

Van Vuuren, D., Smeets, E. 2000. *'Ecological Footprints of Benin, Bhutan, Costa Rica and the Netherlands.'* Ecological Economics Pp.34.

Van den Bergh J., Verbruggen H. (1999). *'Spatial sustainability, trade and indicators: an evaluation of the ecological footprint'* Ecological Economics Pp.29

Van Regenmortel MH (2004) Reductionism And Complexity In Molecular Biology. EMBO Rep 5: Pp1016–1020

Yang, Tongjin, (2010). Towards an Egalitarian Global Environmental Ethics, in: ten Have, Henk A.M.J. (Ed.), Environmental Ethics and International Policy. UNESCO, Paris, France, p. 33.

Yu, Lei, Mouchang, Yi (2009). "13. Biocentric Ethical Theories". Environment And Development - Vol. II (PDF). China. P. 422. ISBN 978-1-84826-721-3.

Appendix I: Philosophical Differences of World Religions

Table 1.A: Philosophical Differences of World Religions

RELIGIOUS CRITERIA	BUDDHISM	HINDUISM	JAINISM
OVERVIEW	Religious tradition founded in India by Siddhartha Gautama Buddha during the 4th century B.C. comprised of a belief that suffering is inseparable from existence but that inward extinction of the self and of worldly desire culminates in a state of spiritual enlightenment beyond both suffering and existence. Represented by many groups, especially numerous in Asia, that profess varying forms of this doctrine and that venerate Buddha.	Religious tradition dating back to the 2nd millennium B.C., is not so much a "religious system" as a vast complex of systems, and is comprised by myriad of teachings but all of which must not obstruct the "Veda" (originating Hindu sacred texts, composed in Sanskrit and gathered into four collections); while the Veda is today little read and less followed, every Hindu pays it homage	An ascetic religious tradition founded in India in the 6th century B.C., distinguished by their doctrine of salvation through atheism and asceticism. Jainism is essentially considered a religion on account of its adherence to the twin beliefs of transmigration and liberation of the soul.
VIEW OF DEITY MONOTHEISTIC	There is no Supreme Being. Theravada Buddhism (TB) is functionally non-theistic. Although some gods may exist, they cannot help others gain release from the wheel of rebirth since they themselves are subject to death and rebirth. Mahayana	There are many deities, including nature deities such as Indra (the atmospheric god) and Agni (the god of fire). Three predominant gods are Brahma (the creator), Shiva (a god of destruction), and Vishnu (a god of benevolence and love). Ultimately,	There is no God, Supreme Being, or Creator. Nor, according to Mahavira (supreme teacher of present day Jains and contemporary of Gautama the Buddha), are there any other deities. The universe is eternal, infinite and uncreated and operates

RELIGIOUS CRITERIA	BUDDHISM	HINDUISM	JAINISM
	Buddhism (MB) teaches that there are a large number of deities and helping beings to worship and adore. There are a large number of sacred Buddhist writings or scriptures, including the Tripitaka (TB scriptures) and the Mahavastu, and Lalita Vistara (MB scriptures).	there is one Absolute Reality, or Brahman-Atman (i.e., all deities, human beings, and everything in the universe are one, they are identical. There are a large number of sacred Hindu writings, including the Vades, Upanishads, and others.	in accordance with its own inherent principles. There are two canons of Jain scripture: 1) the Svetambora, and 2) the Diambara. The Jain canon is thought to contain Mahavira's basic teachings and those of his followers.
VIEW OF HUMAN NATURE	There are no clear doctrines regarding how human beings came to exist. Humans do have free will. People have the power to be loving and compassionate and to achieve enlightenment and nirvana. According to TB, people do not have an eternal soul. Nirvana is the extinction of the soul. MB implies that there is some type of eternal existence and that nirvana is a state of ego-free peace.	Human beings have an innermost and unseen force, or self, called Atman. Atman is identical to Brahman, which is considered the whole external world, as well as the whole inner being of the universe. Thus, the individual "self" and the universal "self" are identical in essence. Human beings are divine. Human beings have free will or the capacity to follow one of the three paths to salvation.	Human beings have an eternal soul that moves up or down the levels of existence depending on how much karma matter the soul carries. Human beings have free will and can achieve enlightenment and self-salvation through their own efforts.
PURPOSE OF LIFE	The world is a place of suffering. The purpose of life is to learn how to get off the treadmill of	The purpose of life is to attain salvation by following one of the three paths:	The purpose of life is to free people's soul (jiva) from matter (ajiva) and the eternal round of birth,

RELIGIOUS CRITERIA	BUDDHISM	HINDUISM	JAINISM
	endless birth and rebirth by realizing nirvana (which according to TB, is extinction or, according to MB, a state of "supreme ego-free peace."	**1.** the Way of Works; **2.** the Way of Knowledge **3.** the Way of Worship. By following one of these three paths, people can acquire good karma (total effect of a person's actions and conduct during the successive phases of the person's existence, regarded as determining the person's destiny) and move up the ladder of existence each time they are reincarnated. Eventually, people can escape the rounds of rebirth by experiencing a total oneness with Brahman-Atman.	death and rebirth so that their soul can enter the heavenly realm and enjoy peace and bliss.
VIEW OF SPIRITUALITY	In TB, spiritual enlightenment and eventual nirvana come from renouncing the world, believing in the four Noble Truths, and following the Eightfold Middle Path. In MB, loving service, faith, and compassion (not merely celibacy or asceticism) are seen as the keys to spiritual growth and	Spirituality is achieved through good works, knowledge, and worship and devotion (one of the three paths to salvation). Ultimately, spiritual growth leads to a realization of the oneness (Brahman-Atman) of all things and to a release from the rounds of rebirth. People can	Spiritual enlightenment is viewed as pure omniscient consciousness or infinite knowledge. Release from karma matter and spiritual enlightenment is gained through overcoming attachment to worldly things (asceticism), faith in the Jain saints, right knowledge, right conduct

RELIGIOUS CRITERIA	BUDDHISM	HINDUISM	JAINISM
	enlightenment. MBs may worship helping beings.	communicate through prayer and meditation with the deities and receive assistance from them	(e.g., ashima or non-violence), and meditation.
VIEW OF MORALITY	Morality for TBs consists of following the Eightfold Middle Path, which consists of many teachings about what constitutes moral behavior and thought (e.g., not being cruel, abstaining from lying, violence, stealing, unlawful sexual relations). MBs believe that compassion and loving service are the hallmarks of morality.	The three paths to salvation each provide alternate perspectives of morality. Doing one's duty, seeking knowledge and wisdom, and worship and devotion of a deity all represent different moral paths and can determine the nature of one's next incarnation. There are also guides for proper conduct associated with each caste (social class).	Jains believe in a variety of moral values and behaviors, including charity, meditation, and ahisma (respect for all life). Jains believe lying or giving false evidence, stealing, committing adultery, gambling, eating meat, and drinking liquor are wrong. Extreme asceticism is viewed as fundamental and essential for annihilating karma matter.
VIEW OF LIFE AFTER DEATH	According to TB, there is no life after death, only nirvana or extinction. Some schools of MB believe people can experience rebirth into the presence	Human beings and other creatures experience a potentially endless cycle of birth, death, and rebirth. If people achieve good karma, they move up to	At death, the souls of human beings float (go up or down) to another level of existence depending on the amount of karma matter they have collected in

RELIGIOUS CRITERIA	BUDDHISM	HINDUISM	JAINISM
	of Amitabha, the Lord of the Western Paradise.	higher levels of existence when they are reborn. Eventually, people can receive salvation by escaping the rounds of birth, death, and rebirth by experiencing a total identification “of one’s individual self with the universal Self or “Brahman-Atman.”	their previous life (doing evil collects karma matter). When all karma matter is annihilated, people’s souls are liberated and ascend to the top of the universe, where all released souls (siddhas) dwell in a state of bliss. Released souls have no individuality and are omniscient.

RELIGIOUS CRITERIA	CONFUCIANISM	TAOISM	SHINTOISM
OVERVIEW	Religious tradition founded in China by the Chinese philosopher Confucius in the 5th century B.C. and which is comprised of his Analects (collection of his sayings and dialogues) which were compiled by his disciples after his death and frequently referred to, today, as the Ching.	Religious tradition founded in China in the 3rd century B.C. and based upon the teachings of the philosopher Chuang-tzu. Also ascribed to works developed by Lieh Tzu and Lao-tzu. However, the historicity of their works and very existence remains somewhat in doubt. Whereas, the life of Chuang-tzu can be authentically dated to approximately 369-286 B.C., it is probable that the tenets of Taoism date earlier to the 6th century B.C.	Shinto is a religious tradition originating with the existence of Japan and characterized by veneration of nature, spirits, and ancestors and a lack of formal dogma.
VIEW OF DEITY MONOTHEISTIC	There is no Supreme Being. Confucius believed there is a heaven that he believed is “an impersonal, ethical force, a cosmic counterpart of the ethical sense in a man.” There is evidence that Confucius also came to view heaven in a more personal way (as “the	According to philosophical Taoism, there is no Supreme Being or deities of any sort. There is a “Tao” or “Way” that is the mystical essence that is “the underlying principle that gives order and harmony to the universe.” Tao is the primordial,	There is no supreme God or transcendent deity. There are a variety of “kamis” (often translated god or gods but is better defined as, “all things whatsoever which deserve to be dreaded and revered for the extraordinary and pre-eminent powers which they possess”). Kamis are

RELIGIOUS CRITERIA	CONFUCIANISM	TAOISM	SHINTOISM
	Lord of human beings") and that he believed heaven had entrusted him with a sacred mission as a champion of the good and true in China's culture.	undivided state underlying both being and non-being. In short, Tao is the inherent purposeless, impersonal Cosmic Principle. Religious Taoists believe in a variety of gods. Taoist texts include the Tao-te Ching (the Classic of the Way and its Virtue) and the Book of Chuang-tzu.	not considered to be omnipotent or transcendent. Kami also refers to the spirit of human beings and to spirits in the universe – animals, plants, seas, mountains, and so forth. Anyone, or anything or any force that possesses superior power is considered a kami. There are no holy scriptures in Shinto; there is n ancient text called the K'jiki (Record of Ancient Matters) that contains myths and stories about the creation, gods, men, customs, and ceremonies of Japanese Shinto.
VIEW OF HUMAN NATURE	There is no precise or explicit doctrine regarding how human beings came into existence or whether people have a soul or spirit. Human beings do have free will and can learn to behave with inner virtue and proper conduct.	Human beings do not have a soul but may become immortal in Religious Taoism. Human beings have a free will; they can learn to live in harmony with the Tao.	Human beings are inherently good. Human beings do have a "kami" or spirit.
PURPOSE OF LIFE	Human beings need to learn to live with inner virtue and with right	Human beings need to learn to live in harmony with the Tao,	The purpose of life is to value and enjoy beauty and nature, observe

RELIGIOUS CRITERIA	CONFUCIANISM	TAOISM	SHINTOISM
	conduct. People should seek to cultivate ideal relationships with other people and a sense of dignity toward human life.	or the Way. The pinnacle of peace, human happiness, and wisdom is achieved when a person adjusts himself/herself to the motion and movement of the universe.	rituals and taboos, and show allegiance to one's family, group, community and to the kami of the area in which one is born, or the kami worshiped by one's ancestors.
VIEW OF SPIRITUALITY	There are no teachings about spiritual communication with deity or about transcendent spiritual enlightenment. Confucius did describe what he believed are the characteristics of a superior man or true gentleman. These qualities included "li" (the code of moral, social conduct), "jen" (virtue, compassion, love), "yi" (righteousness), and "te" (virtue).	Living in harmony with the Tao is the pathway to inner harmony and peace. An important principle of the Tao is "we-wei" or the principle of non-action. We-wei is a call to passive action. One should not resist, confront, or defy. One should not lay down rules or requirements. Only sincere humility, minimal desires, and pure spontaneity can enable one to find the Way.	Spirituality is perhaps best thought of as feelings of appreciation and closeness to nature and enjoyment of life. Human beings can worship the kamis to secure their continued favor.
VIEW OF MORALITY	Inner virtue and proper conduct is the way to personal and social harmony. There are five basic qualities of inner virtue, including: **1)** uprightness or integrity, **2)** righteousness,	Taoism does not proscribe rules, laws, or moral constraints. People need to submit to the natural order of things and live in harmony with the Tao. Judgments of what is right and wrong are	There is no binding moral code or list of commandments in Shinto. There is no sin, but one should avoid pollution or non-cleanliness. Loyalty and fulfilling one's duty to family, ancestors, and tradition are viewed as

RELIGIOUS CRITERIA	CONFUCIANISM	TAOISM	SHINTOISM
	3) conscientiousness toward others or loyalty, **4)** altruism or reciprocity and most import **5)** benevolence or “jen.”	relative to one=s personal stance, situation, and needs.	important. Gratitude, courage, justice, truthfulness, politeness, reserve, and honor are valued.
VIEW OF LIFE AFTER DEATH	There are no explicit or precise doctrines regarding what happens at death. Confucius believed that people are better off focusing their energies on living right in this life rather than concerning themselves with speculations about life after death	The founder of philosophical Taoism did not believe in immortality; when a person dies he or she passes into non-being and individuality is dissolved. Religious Taoists believe in immortality. Those who become immortal were thought to dwell on an island of paradise called “P’eng-lai.”	There is no doctrine in Shinto regarding the nature of life after death. Shinto believers can appeal to the teachings of other religions, such as Buddhism, regarding such questions.

RELIGIOUS CRITERIA	CHRISTIANITY	JUDAISM	ISLAM
OVERVIEW	Religious tradition comprised of all persons who profess belief in Jesus Christ as the Son of God; the majority believe in the deity of Jesus Christ and accept Him as their Lord and Savior	Religious tradition developed among the ancient Hebrews and characterized by belief in one transcendent G-d who has revealed Himself to Abraham, Moses, and the Hebrew prophets who subsequently produced the inspired written word of G-d in the Talmud.	Religious tradition founded in Arabia during the 6th century A.D. by the prophet Mohammed and characterized by the acceptance of the doctrine of submission to God and Mohammed as the chief and last prophet of God.
VIEW OF DEITY MONOTHEISTIC	Most Christians believe in the Holy Trinity: God the Father, God the Son, and God the Holy Spirit. Some Christians believe that the Holy Trinity is one in essence, but other Christians believe they are one in purpose but not in essence. God is a personal God. He is the creator of all things. God is eternal, all-powerful (omnipotent), all-knowing (omniscient), and all-loving. God has revealed Himself and His words in Jesus Christ, of whom the Bible bears witness as the Son of God.	There is one Supreme Being. G-d, also called Elohim or Jehovah, is the creator of all things. G-d is eternal, all-powerful, all-knowing. Most modern Jews believe G-d does not have a physical body, but they believe G-d is real. G-d revealed himself and his law through Moses, which is recorded in the Torah (the Pentateuch or first five books of the Old Testament).	God, also called Allah, is the only true God or Supreme Being. Allah is the creator of the universe and of human beings. God is all powerful, all-seeing, all-hearing, all-speaking, and all-knowing. God does not have a body but is real. God is eternal. God has revealed His eternal speech and words to human beings in the both the Torah (Jewish scriptures) and the Qur'an (the holy book of scripture as revealed to Mohammed). The Qur'an is the primary holy book of Islam.

RELIGIOUS CRITERIA	CHRISTIANITY	JUDAISM	ISLAM
VIEW OF HUMAN NATURE	Human beings were created by God. Humans have a body and an immortal spirit or soul. Most Christians believe that human beings have free will – the power to choose good over evil. Many Christians believe that there is something basically evil in human nature because of the fall of Adam an Eve, which can be corrected only by God's grace and their own self-effort cannot free them from sin.	Human beings are made in G-d's image; humans are the high point of G-d's creations. Human beings have a spiritual soul that is immortal. People have free will and have the agency to obey G-d's laws.	Human beings are God's creations. People have both a body and an immortal soul. Some controversy exists in Islam over the question of free will. Some believe God determines human actions, whereas others say that humans have agency to choose, particularly those actions on which they are judged
PURPOSE OF LIFE	God desires to have a relationship with human beings. God created people to enjoy His divine presence forever. Human beings are to glorify God by having faith in Jesus Christ and by repenting their sins and following the teachings of Jesus. Those who do so will receive God's grace, be forgiven, and be welcomed into God's presence (Heaven) in the hereafter.	The Jewish people are G-d's chosen people and have a mission to help make the world a better place morally and spiritually. Individually, each person needs to obey G-d's commandments to develop morally and to qualify to live in a place of peace and eternal progress in the world to come.	Human beings must learn to submit to God's will, obey His law, and do good. They must give up worldly things and overcome their vices. Those who do so will be rewarded in the hereafter (heaven).
VIEW OF	Accepting Jesus Christ	Obedience to G-d's	Obeying God's law as

RELIGIOUS CRITERIA	CHRISTIANITY	JUDAISM	ISLAM
SPIRITUALITY	as Savior will lead one to good works, a moral life, and devotion and worship. This will allow one to receive the influence of the Holy Spirit and partake of other fruits of the spirit (e.g., love). Through prayer and the influence of the Holy Spirit, human beings can communicate with God and receive God's help, influence, and grace	laws and worshiping Him leads to character development (acquisition of qualities such as goodness, humility, and holiness). Humans can communicate with God through prayer and worship. G-d responds to people reaching out to Him.	revealed in the Qur'an and a giving up of worldly things allows people to grow spiritually. The path of spiritual growth involves overcoming vices such as arrogance, greed, and dishonesty. This leads to higher levels of religious experience and union with God. Humans can communicate with God through prayer, meditation, and repetition of set phrases or the name of God.
VIEW OF MORALITY	There are both good and evil in the world. Human beings must learn to choose good over evil. Accepting Jesus as Savior and following His teachings is the path to righteousness and morality. Morality includes behaviors and qualities such as love, service, honesty, family devotion, and abstinence from behaviors such as drunkenness, adultery, and fornication.	G-d revealed His law at Sinai. There are 613 commandments or religious duties (mitzvat). Charity, good deeds, respect for human dignity, humility, truthfulness, controlling one's anger, and not being envious are examples of other morally good behaviors and qualities	God has revealed His law in the Qur'an. Those who worship Allah and obey His laws are good. There are five classes of moral actions: those that are obligatory, recommended, prohibited, disapproved, and indifferent. Examples of prohibited behaviors include drinking of alcohol and immodesty of dress. Fasting and prayer, payment of alms, and devotion to the family are examples of morally good behaviors.
VIEW OF LIFE AFTER DEATH	The spirit or soul of human beings continues	The soul of human beings lives on after	The soul of human beings does not cease to exist at

RELIGIOUS CRITERIA	CHRISTIANITY	JUDAISM	ISLAM
	to exist after mortal death. Someday there will be a judgment and a resurrection of the body and spirit (or at least a spiritual resurrection). Those who have accepted and followed Jesus will be accepted into God's presence to enjoy Him forever. Those who have done evil and who have not accepted Jesus will be banished to hell, outer darkness, or extinction.	mortal death in a spirit world. Eventually the bodies of the dead will be resurrected, although many Jews believe only in the immortality of the soul. There will also be a judgment in which people will be judged for what they did with their lives. The righteous will go to a place of peace, where they will continue to progress and enjoy a nearness to G-d. Those who were evil will not enjoy this state.	mortal death. There will be a judgment at the final hour of the world. The dead will be resurrected. The wicked will be punished by God by being sent to hell and the good rewarded in heaven.

Appendix II: Scientific Approach for Building Community Resilience

Kyoto Disaster management Conference 2009

B H J Prematilake
Coast Conservation Department
Sri Lanka
Email: bhjprem@yahoo.com

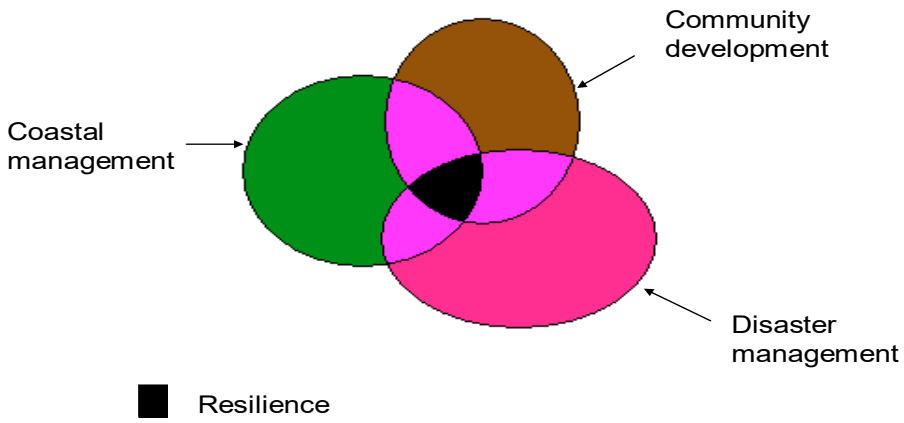
Dilhan Indika Somaratne
Sarvodhaya Community Disaster Management Centre
Sri Lanka
Email: naropa911@gmail.com

Abstract

This paper contains two parts; Part one describes the comprehensive approach adopted to build social, economical, institutional and environmental resilience of the tsunami affected communities in Sri Lanka to cope with future natural disasters. Community development, Coastal resource management and Disaster management are the three pillars of this model and these pillars were built simultaneously to bring the community into a higher level of resilience. Second part describes the application of Coastal Community Resilience (CCR) Assessment framework to evaluate the progress achieved in building overall resilience of the communities during the project period. The study was further extended to estimate the contribution of this specific project for the improved resilience status of the communities in a multi stakeholder environment.

Measuring Community Resilience to Coastal Hazards

Community Resilience refers to the capacity of a community to adapt to and influence the course of environmental, social, and economical change and it is commonly described as a combination of three characteristics: the magnitude of the shock that the system can absorb and remain within a given state; the degree to which is capable of self –organization; and the degree to which the system can build capacity for learning and adaptation (Folke et al.2002). Coastal community resilience requires an integrating and maintaining an optimal balance of coastal resource management, disaster management and community development frameworks typically viewed as separate domains. Community development provides the enabling governance, socioeconomic and cultural conditions for resilience. Coastal Management provides the framework for managing human uses of coastal resources and the coastal zone in order to maintain environmental and ecosystems resilience. Disaster management focuses on preparedness, response, recovery and mitigation to reduce human and structural losses from disaster events.



Need of Building Resilience

Coastal communities round the world are being subjected to unprecedented changes resulting from population growth in coastal areas, human-induced vulnerability, and global climate change. These changes are placing communities at increasing risk from coastal hazards such as tsunamis, severe storms, and shoreline erosion. Building community resilience to coastal hazards is vital for avoiding future disasters.

SRTAC Project

The project “Strengthening Resilience of Tsunami affected communities” which was supported by CIDA\IDRC was designed to reduce the vulnerability of tsunami affected coastal communities in India and Sri Lanka. Sarvodaya and Practical Action were the implementing partners in Sri Lanka. Project activities were confined to twelve coastal villages from four administrative districts; Ampara, Hambantota, Matara and Galle. The overall objective of the project was to reduce the vulnerability of tsunami affected communities to future coastal hazards through strengthening local capacities, livelihoods and protective forest with access to strategic and transformative information services by local people and organizations, including women as key beneficiaries. In line with the above objective, various initiatives in the areas of community development, disaster management and coastal resource management were made to build community resilience during the project period. The donors and the project implemented agencies were very keen to know the progress of building community resilience at the end of their effort.

Methodology

Measuring community resilience is a challenging and complex task, because of the nature of its contributing factors and conditions. Though the progress of

some factors and conditions were easily captured in quantitative or qualitative manner, some are very hard to measure. Methodology adopted for this assessment is developed by the Indian Ocean Tsunami Warning System (IOTWS) Programme for measuring disaster resilience of coastal communities. The methodology has identified eight elements (Figure 1.A) as fundamentals for community resilience and a simultaneous progress of them is vital for reducing risk from coastal hazards, accelerate recovery from disaster event, and adapt to changing conditions.

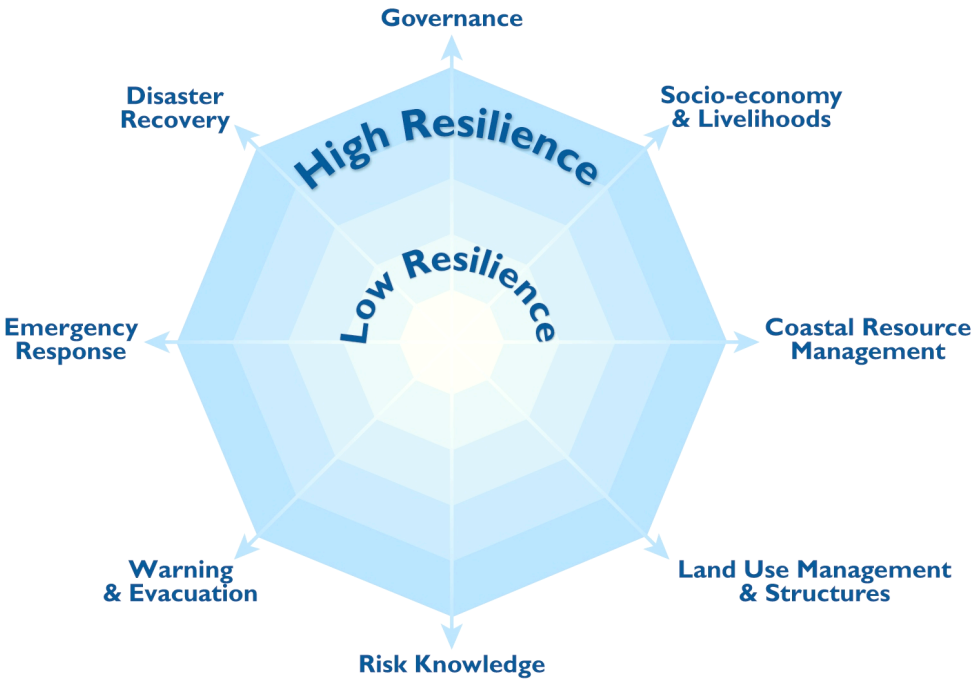


Figure 1.A: Elements of Community Resilience.

These elements incorporate long-term planning and implementation such as society and economy, coastal management and land use and structural design. Hazard event-oriented resilience elements focus on contingency planning and preparedness for warning & evacuation, emergency response and disaster recovery. Governance as a resilience element provides the enabling framework for resilience in all other elements. Risk knowledge is a cross-cutting requirement within each resilience element.

Assessment Process

First step of the assessment process was to identify benchmarks (Table 2.A) for each resilience element to evaluate the resilience condition or status of the community. Each of benchmark represented desired conditions against which to evaluate the resilience status of the community.

Table 2.A: Benchmarks for each resilience element

Resilient Element	Benchmarks			
	Policy and Planning Capacity	**Physical and Natural Capacity**	**Social and Cultural Capacity**	**Technical and Financial Capacity**
Governance	**A1: Community development plans and policies incorporate short-term and long-term goals and actions for achieving coastal community resilience.**	**A2: Basic services** (i.e. water, transportation, security, etc.) are accessible to society provided by capable and transparent leaders and institutions as an enabling condition for building coastal community resilience.	**A3: Collaboration mechanisms among different sectors and various levels of government are effectively used to manage for resilience.**	**A4: Leadership, financial and technical resources provide regular support to achieve community resilience**
Socio-economic and livelihoods	**B1: Economic development programs promote sustainable and diverse**	**B2:Local economies are characterized by diverse and environmentally sustainable**	**B3: Technical and financial resources are available to promote economic**	**B4: Social and cultural networks support equity and efforts to build coastal community**

	livelihoods based on knowledge of risks from coastal hazards.	**livelihoods**	**diversification, to reduce vulnerability to coastal hazards, and aid post-disaster recovery**	**resilience.**
Coastal Resource Management	**C1: Policies and plans are implemented and monitored to effectively manage natural coastal resources**	**C2: Sensitive coastal habitats, ecosystems and natural features are protected and maintained to reduce risk from coastal hazards**.	**C3:Communities are actively engaged in planning and implementing coastal resource management activities**	**C4: Communities and local governments value and invest in management and conservation to sustain their natural resources**
Land Use and Structural Design	**D1:Land use policies and building standards that incorporate measures to reduce risks from hazards and protect sensitive habitats are established, monitored and enforced**	**D2: Critical structures are located outside high risk areas and constructed to address risks from priority hazards**	**D3: Developers and communities incorporate risk reduction measures into the location and design of structures**	**D4: Education, outreach and training programs are established to improve compliance with land use policies, building standards and construction guidelines**
Risk Knowledge	**E1: Coastal hazards risk assessments are completed at a scale**	**E2: Coastal hazard risk assessments are comprehensive**	**E3: Community participates in the hazard risk assessment process.**	**E4: Information from risk assessment is accessible and utilized by the**

	appropriate to the community and routinely updated	**and incorporate risks to all elements of resilience (e.g livelihoods, coastal resources, land uses etc)**		**community and government**
Warning and Evacuation	**F1: Community warning and evacuation systems, policies, plans and procedures are in place and capable of alerting vulnerable populations in a timely manner.**	**F2 :Community warning and evacuation infrastructure is in place and maintained**	**F3: Community is prepared to respond to hazard warnings with appropriate actions**	**F4: Technical and financial resources are available to mitigation and improve warning and evacuation systems**
Emergency Response	**G1: Pre-defined roles and responsibilities are established for immediate action at all levels**	**G2: Basic emergency and relief services are available**	**G3: Preparedness activities(Drills and simulations are ongoing to train and educate responders**	**G4:Organizations and volunteers are in place with technical and financial resources to support emergency response activities**
Disaster Recovery	**H1:Disaster recovery plan is pre-established that addresses**	**H2:Disaster recovery process is monitored, evaluated and**	**H3: Coordination mechanisms at international, national, and**	**H4: Technical and financial resources are available to support the**

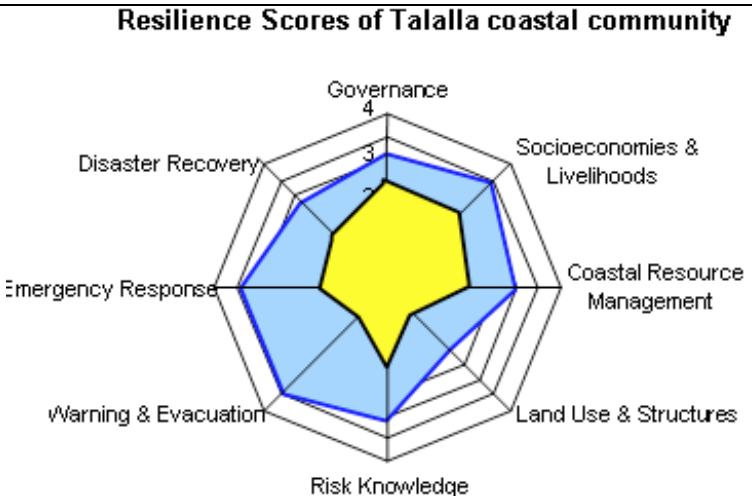
	economic, environmental and social concerns of the community	**improved at periodic intervals**	**local levels are pre-established for disaster recovery**.	**recovery process**

Gathering of Data and information

The data & information gathering process was involved two steps;1); gathering secondary data & information with various relevant agencies at different levels 2) primary data collection using participatory rapid assessment tools and techniques to fill the information gaps which were identified through a secondary information review. Key informant Interviews, group discussions, community mappings, field observations and informal discussions were helpful for gathering primary data in this process.

Assessment Results

Based on the average score achieved by each resilience element, resilience status of the community was decided. The graphical presentation of the resilience levels of three project sites clearly shows the progress of building community resilience in comparing pre-tsunami situation. Yellow coloured area in each graphic presents the resilience status prior to tsunami, December 2004 and blue coloured area represents the improved community resilience by the end of the SRTAC project. Figure 2.A, 3.A and 4.A give graphical comparison of community resilience in pre-tsunami and end of SRTAC project situations in Pathegama,Talalla and Andaragasyaya respectively.

Figure 2.A: In concern of the Pathegama, it is obvious that a clear progress in hazard-oriented resilience elements has been achieved during this period. Warning & evacuation has achieved the highest score 3.75 while land use & structural designs scores the lowest	
Figure 3.A: the graph shows that Talalla community has achieved remarkable progress in the areas of warning & evacuation, emergency response and risk knowledge in the post tsunami period. Both warning & evacuation and emergency response have scored the highest 3.5	
Figure 4.A: In comparing to the two sites on the southern coast, Karathive community achieved less resilience during this period because of the conflict situation. However it has achieved medium level resilience.	

Conclusion

In general, resilience status of each project site has been improved during the post-tsunami period due to the enhanced enabling conditions, and external inputs for sustainable local community development. The enhanced community knowledge on risks also supported for this progress. A remarkable progress on the hazard-oriented resilience elements has been achieved due to the huge effort made by the government and non government agencies on building national and local level disaster management capacity. National policies, plans and institutions for disaster management as a country was formulated and implementation mechanisms were established during this period with external assistance. In line with the government effort for building disaster management capacity to avoid future disasters and early rebuilding of the tsunami damaged communities, non government agencies and their projects like SRTAC extended their supports in many areas such as reconstruction and rehabilitation, disaster risk reduction , livelihood development and environmental health. Therefore the communities in the project areas have better resilience for future coastal disasters. In comparing to the project sites on the southern coast, Karathive community shows less progress in building resilience even with the same or more external assistance. However the enabling environment was not much supportive for local level effort to build a better resilient community due to the longstanding conflict situation in the area.

References

Asian Disaster Preparedness Centre. (2010). “CBDRM Field Practitioner’s Handbook”

Brooks N (2003) Vulnerability, risk and adaptation: a conceptual framework (Tyndall Centre Working Paper No. 38). University of East Anglia

Chua Thia-Eng “The Dynamics of Integrated Coastal Management”. Hyogo Framework for Action 2005-2015

Indian Ocean Tsunami Warning System Program (2007). “How Resilient is your Coastal Community?”

NOAA “Community Vulnerability Assessment Tool” (2007). http://www.csc,noaa.gove/products/nchaz/startup.htm